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Virginia Medical Monthly

Official Organ of the Medical Society of Virginia

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Original Communications.

OPERATIONS ON HARE-LIP AND CLEFT PALATE.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.

Operations on hare-lip and cleft palate, when successful, fill every reasonable demand made upon the science and art of surgery. First, and most important, the operation for hare-lip and cleft palate is often life saving. These congenital deformities are not directly fatal, but it is well known that but few children born with hare-lip and cleft palate reach adult life without an operation. They succumb readily to both respiratory and gastro-intestinal disease. The nasal structures, that are intended in the normal child to warm the air and to abstract at least some of the floating foreign material from the air, are nullified by the wide open cleft, which permits almost direct access of air to the larynx without the intervention of the protecting membranes of the nose. This predisposes to respiratory diseases and renders the tissues of the pharynx in a chronic state of inflammation, which also predisposes in young children to gastro-intestinal disease. The second object that is attained by surgery of hare-lip and cleft palate is the relief of the deformity and the greater comfort of the patient. A third desirable result is that it relieves society from the sight of an unpleasant object, for surely nothing can be more unpleasant than gazing upon a wide-open hare-lip, and from the hearing of unpleasant sounds, which any one who has listened to the attempted conversation of a patient with cleft palate can readily appreciate.

Inquiries are often made about the proper time for operation on hare-lip and cleft palate. The hare-lip should be operated upon when the baby is two weeks old, or as soon thereafter as possible. If the hare-lip is accompanied by a complete cleft in the palate, that portion of the cleft that involves the alveolar process is closed by a single wire suture immediately before operating upon the hare-lip. If the baby is in good condition, usually both of these operations can be done at the same sitting. The cleft of the hard and soft palate is, in my judgment, best operated upon at the age of about six months. If the operation is not entirely successful, further operation can be done, so that the baby should have a satisfactory palate by the time he begins to talk. This is all that is necessary, and if the palate is holding and functioning when the baby begins to talk, there will be no defect in his speech. If the operation is done earlier than six months, the tissues and palate have not well developed, the bony structure of the hard palate is still very soft, and the shock of the operation is somewhat greater than appears to be the case when the baby has attained the age of six months. Of course, if the cleft interferes with the nutrition, or there are other good reasons, the operation can be done earlier. If the operation is postponed beyond the age of a year, when the child has acquired the habit of talking, he will have to be re-educated so as to talk without a defect, even though the palate has been restored to its anatomical normal. This can be accomplished by the assistance of an intelligent voice culture teacher and, if the palate has been entirely corrected, the training of the speech should be persisted in until it becomes normal.

No operation for hare-lip or cleft palate should be performed unless the baby is in good physical condition. No matter how accurately the sutures are placed, nor how gently the tissue is handled, if the baby is in poor physical condition, has been improperly fed,

*Read by invitation at the Tri-State Medical Association of the Carolinas and Virginia, at Charlotte, N. C., February 18, 1920.

or if the food is not agreeing with him, operation should be postponed until the patient can be built up or the dietary errors corrected. If this is impossible, operation should not be done, as it would almost certainly meet with failure. Babies should be either on mother's milk or modified cow's milk. A child that is fed largely or entirely on condensed milk may look well, but will not stand the strain of an operation satisfactorily.

The operation that I perform for hare-lip is the Rose operation, with very slight modification. It is important to have a satisfactory background for the lip to rest upon, and if there is a cleft of the alveolar process, or if the hare-lip is a double hare-lip with a protruding premaxillary bone, this condition should first be corrected. After this, the operation for single hare-lip demands that the tissues, when sutured together, be free from tension, that the hare-lip at the point of suture should be slightly longer than normal, and that the vermilion border of the lip should be accurately approximated. In order to secure union without tension, the lip and ala of the nose are freely dissected from the maxillary bone with the knife and scissors. The side of the hare-lip near the mid-line needs but little mobilization, but the ala of the nostril should be completely freed. This is sometimes followed by sharp bleeding, which can be readily controlled by firm pressure for a few minutes with dry gauze. The incisions are based upon the prinicples of the Rose incisions, only instead of using curved incisions I prefer an angular incision. The edges of the hare-lip are caught with mosquito forceps on the mucous membrane near the lower border of the cleft in the lip. The fingers of an assistant control the coronary arteries and stabilize the lip. An incision is then made in the outer portion of the cleft of the lip, going from the mucosa into the skin about one-quarter of an inch. This incison is carried outward and upward and is made with a sharp-pointed knife. From the end of this incision another straight incision is carried upward and inward to the nasal border of the nostril. The knife incision is carried well through the skin, but the rest of the incision may be completed with scissors. (Fig. 1.) The incision should go through the lip where it is normally thick, so that when the tissues are approximated there will be the full thickness of the lip along the line of suture. Otherwise, there will be a disfiguring groove. A similar procedure is carried out on the other side of the cleft in the lip and a suture of the finest silk-worm-gut is placed through the lower mucosa borders of the lip, but is not tied. It is used as a tractor suture. A through and through stitch of very fine silk-worm-gut is placed through the lip just above the vermilion border and near the angle of the incision. This stitch should include a very small bite of skin, but should be carried outward from the incised surface in such a way that a full bite of the musculature and the mucosa is taken. The stitch is carried through to the other side of the cleft in the lip and inserted

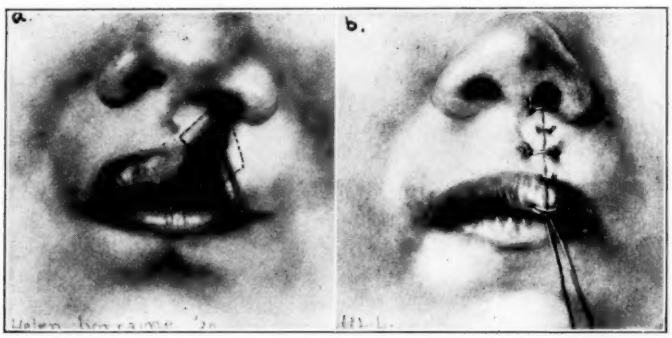

Fig. 1. (a) The lines of incision for harelip operation. (b) Suturing of the pared edges has begun. Note insertion of the traction suture.

at about a similar point, going from the mucosa to the skin and taking a very small bite of skin, while tension is made on the tractor suture. The first knot in this stitch is tied and the tractor suture is relaxed to demonstrate whether the suture makes the lip symmetrical. If it is not in satisfactory line, half of the suture is withdrawn and reinserted. This is an anchor suture, and is very important. Another silk-worm-gut suture is placed near the nostril going through all layers of tissue. It should not be placed within the grasp of the nostril, for this is likely to occlude the nostril, and it is better to have the nostril a little too widely open, which can be easily corrected later by excising a wedged-shape piece of tissue on its floor, than to have it occluded. In an adult, or an unusually long lip, it may be necessary to put one other through-and-through suture, but the average child only needs two, placed as described. Further approximation is obtained by suture of fine silk. I usually use arterial silk 00000 or very fine silk-worm-gut. These sutures go no deeper than the skin or mucous membrane. The wound is powdered lightly with boric acid powder and no dressing is applied and no retentive apparatus, such as adhesive plaster, is used. Formerly adhesive plaster strips running from the cheek across the bridge of the nose to the forehead on the opposite side were used. They were annoying and frequently slipped, and sometimes caused irritation of the skin. I have found that healing without retentive apparatus is just as satisfactory as when the adhesive strips were used, and the patient certainly appears to be more comfortable without them. (Fig. 1.)

The parents should always be instructed to bring the child back in about three or four months after the operation. The lip may be approximated apparently perfectly, and yet during the process of healing there is sometimes undue contraction and a notch will form or one side of the lip will be pulled up a little more than the other, and leaves a slight unevenness at the vermilion border. This should be unsatisfactory to the surgeon, even if it is not complained of by the parents or the patient, and if the parents are informed of this possibility before the operation for hare-lip, they will understand the situation. If the second operation is necessary, it is a very slight plastic procedure, and will make an almost perfect lip instead of one with a notch or irregularity. The stitches, except the through-and-through stitches, are removed in five days. The through-and-through stitches should be kept in place from seven to nine days, depending upon the firmness of union.

I believe this operation will be satisfactory in practically any type of single hare-lip. In double hare-lip, if there is a premaxillary bone, it is set in place by making a submucous resection of the nasal septum which supports the premaxillary bone. (Fig. 3.) The

Fig. 3. Splitting mucosa of septum in double harelip in order to make submucous resection to place the premaxillary bone in the cleft. The premaxillary bone should always be preserved and never removed.

edges of the premaxillary bone and corresponding portions of the maxillary bones are freshened by trimming away the mucous membrane. The premaxillary bone is set back into the gap between the maxillary bones and held in position by a braided wire suture In an infant, this suture can be passed by thrusting a stout perineal needle with the eye at the point through the soft bone just above the alveolar process and threading the wire through the eye of the needle while it is within the cavity of the mouth. The wire is then pulled through, and a similar procedure is carried out on the other side. The perineal needle is then thrust through the soft tissues just in front of the premaxillary bone, the wire is drawn through and is tied snugly, holding

the premaxillary bone fixed. The mucosa of the lip tissue over the premaxillary bone is denuded and the edges of the cleft in the lip are pared somewhat similarly to the paring of a single hare-lip, only at the angle of the incision a straight incision is carried outward and slightly upward for a distance of about one-half an inch in order to provide an ample margin for the lip. (Fig. 2.) This flap is sutured to its opposite flaps in the mid-line and through-and-through sutures unite that portion of the lip over the premaxillary bone to the adjoining parts of the lip. These sutures should be fine silk-worm-gut. Other approximating sutures may be fine silk-worm-gut or arterial silk. (Fig. 2.) The after-treatment is the same as in single hare-lip.

In cleft palate operations, the ideal should be the same as in all operations; that is, to restore the palate so far as possible to its anatomic and physiologic normal. Various types and modifications have been used, and a number of these I have employed, but I have found that the principle of the old Langenbeck operation comes nearer filling the ideal conditions than any other type of operation. The Lane operation, in which a flap is turned over from one side, including the mucosa over the alveolar process and hinging on one edge of the cleft, and tucked into a pocket made on the opposite side of the cleft, affords a number of immediate apparent successes, for the cleft is thus readily closed. A large raw surface is left, however, and eventually the scar tissue is so marked that the palate is merely a mass of fixed scar tissue with little or no function except the passive one of stopping the cleft. Such patients have but little use of the muscles of the soft palate and often have pronounced defect in speech.

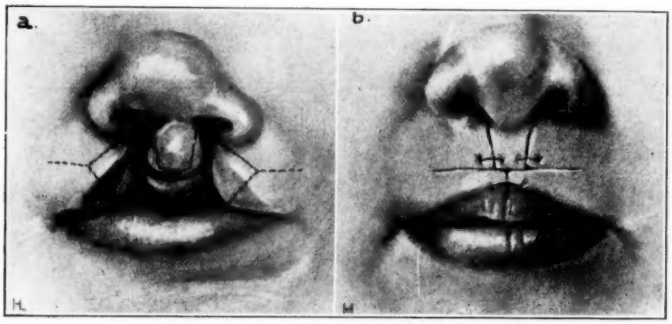

Fig. 2. (a) The lines of incision for double harelip operation shown by dotted line. (b) Suturing of double harelip after incisions have been made.

The operation of Langenbeck consists of paring the edges of the cleft, making a relaxation incision near the alveolar proecss, and after stripping up the muco-periosteal flap from the bone of the hard palate and separating the fibrous attachment of the soft palate to the bone of the hard palate, the margins of the cleft are united by interrupted sutures. There are certain important points in this operation to insure success. The first is to handle all the tissues as gently as possible. These wounds cannot be protected against infection from food or air, so their natural resistance must be preserved by treating them gently. A second important point is that the relaxation incision should be made as close to the alveolar process as possible and posteriorly it may curve around the process slightly. If made further inward, the posterior palatine artery is injured and the nutrition of the tissues along the cleft is greatly impaired. A third important point is thoroughly to separate the fibrous attachment of the soft palate from the bone of the hard palate, and the fourth point is to use silver wire sutures, which in themselves are slightly antiseptic, and to put just sufficient pressure upon them to approximate the tissues.

After anesthetizing the patient with ether, the anesthetic is continued by pumping ether

vapor through a perforated metal tube, which is held in the corner of the mouth. One-half of the uvula is seized with mosquito forceps and the uvula made tense while a thin ribbon

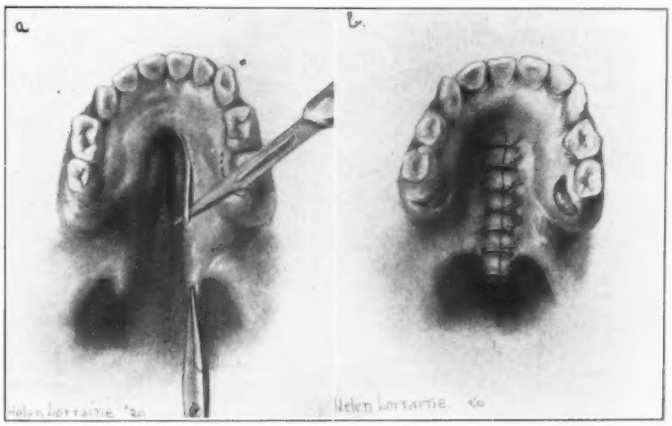

Fig. 4. (a) Cleft of hard and soft palate, showing method of paring the edges of the cleft. The dotted lines indicate relaxation incisions which are made close to the alveolar process to avoid injuring the posterior palatine arteries. (b) The tissues have been mobilized through the relaxation incisions. The attachment of the soft palate to the bone of the hard palate has been severed and the edges of the cleft are approximated with seven silver wire sutures.

of mucosa is cut from the anterior portion of the cleft to the tip of the uvula. (Fig. 4.) This procedure is repeated on the other side. I prefer this to denuding the cleft after the

Fig. 5. (a) David R., age 10 months. Photographed before operation. Harelip had been operated on unsuccessfully elsewhere, all stitches having broken down. (b) Photograph of the same patient as in Fig. 5a. Photograph taken about 4 months after operation. The patient also had a complete cleft of the palate.

flaps have been mobilized, because I think a smoother paring can be done at this stage than later on. The relaxation incisions are made just within the alveolar process and are no

periosteal flap is well elevated. This procedure is repeated on the opposite side. Wherever possible, sponge pressure is held over one bleeding surface while the operation is being carried out elsewhere. This minimizes the loss of blood. After the muco-periosteal flap has been thoroughly mobilized on each side, the fibrous attachment of the soft palate to the bone

Fig. 6. (a) Bessie H., 3 weeks of age. Photograph taken before operation. (b) The same patient as in Fig. 6a. Photograph taken 2 years, 7 months after operation. This patient also had complete cleft of the palate in addition to the harelip.

of the hard palate is divided by a curved blunt-pointed scissors, which are inserted with one blade between the muco-periosteal flap and the bone and the other just above the bone and the scissors carried down to just posterior to the margin of the bone of the hard palate. The separation at this point is facilitated by retracting the tip of the uvula on that side after grasping it with mosquito forceps. This procedure is repeated on each side. Fine silver wire, about No. 29 or 30, in a sharp curved needle, is inserted through the cleft on both sides about the junction of the hard and soft palate. This is not twisted, but by leaving a clamp on each end of the suture, placing of other sutures is facilitated. About three sutures are placed in front and three behind this central suture, the others being twisted as they are placed. The sutures should be twisted just tightly enough to approximate the tissues well. The ends are cut off and one or two should be left slightly protruding and not tucked under so as to prevent suction in the region of the wound by the tongue. (Fig. 4.)

Any extra suturing, such as suturing the posterior pillars of the palate together, or tapes or larger wires carried through the relaxation incisions and around the flaps, is unwise. They either cut off the nutrition while relieving tension, or predispose to infection, or both. No other suture should be placed except those described. The wound may be kept clean by an atomizer containing some mild antiseptic, such as boric acid or an alkaline antiseptic, which is sprayed through the mouth and nose every three or four hours. The sutures are removed in about two weeks, but silver wire sutures can be left longer.

Proportionate successes with this operation

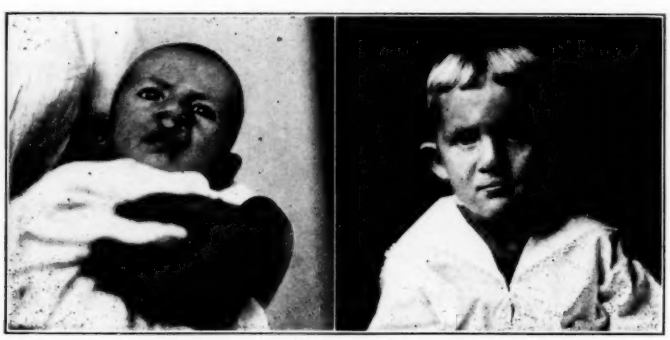

Fig. 7. (a) Herbert T., age about 7 months. Photograph taken before operation. (b) The same patient as in Fig. 7a. Photograph taken 2 years, 3 months, after operation. All three of these patients, in addition to the harelip, had complete cleft palate which has been successfully repaired.

increase with experience. If the patient is in good condition and the operation is carefully performed, a majority of these cases should unite perfectly after the first operation. The possibility of some stitches breaking down, however, should be explained to the parents before the operation is undertaken. The surgeon will find that using apparently the same technic, his latest work will be more successful than his earlier work. Formerly I was satisfied with about one-third of the cleft palates healing completely after the first operation, it requiring one or more subsequent operations to complete the closure. In the last five consecutive operations on cleft palate, four have healed perfectly after the first operation and one broke down entirely. This was on a young baby who had been fed with condensed milk and who developed a temperature of 106 degrees three days after operation. The baby recovered, but all the stitches broke down at the end of the first week. I believe, with care and patience, every congenital cleft palate, no matter how bad, can be closed, providing a competent operator does the first operation. In defects of the palate following syphilis, however, permanent closure is much more difficult and is often impossible.

HEMORRHAGIC PNEUMONITIS.*

By GARNETT NELSON, M. D., Richmond, Va.

During the two winters that the American Army was in the training camps in this country and in the camps and trenches in France, it was visited by two epidemics affecting the lungs and pleura. These epidemics were very similar as to their mortality, but essentially different as to their pathology. The one that occurred at Camp Lee, at least in 1917, was primarily a serous membrane infection, affecting in order of frequency the pleura, pericardium, peritoneum and meninges; while the infection in France, at least the one we saw at Toul, attacked the lungs primarily and the relatively rare empyemas were secondary to this infection of the lung tissue proper. This is particularly interesting on account of the fact that the infectious agent in so many cases seemed to be the same, the streptococcus hemolyticus. No satisfactory explanation of either condition has appeared that I know of. Primary empyemas are not so very common as isolated findings, and epidemics of this sort were up to 1917 practically unknown. Until the winter of 1918, the type of pneumonia to which we gave the name Hemorrhagic Pneumonitis had not been described. So here again there is another similarity, one epidemic being properly called new on account of the comparatively rare occurrence of this infection even in isolated cases, and the other on account of the fact that it actually was a novelty.

It is a well known fact that many epidemics vary in their virulence during their course, reaching a climax and gradually fading away. This common history obtained with us both years. I mention this fact particularly in order to take another shot at the so-called Empyema Board that worked at Camp Lee during the late winter and early spring of 1917 and 1918. Their results were perhaps somewhat better than those of our own surgeons, but in their published reports they failed to lay proper emphasis on the perfectly patent fact that they were treating one condition and our men another.

This variation in virulence was especially true of the empyema epidemic. The early cases became desperately ill in the first twenty-four hours, and numbers of them died in from two to three days from the beginning of their illness, no matter what was done, whereas the later cases showed a less violent reaction and a tendency to run a more chronic course. The two epidemics were, therefore, very similar in these respects:

1. The frequent occurrence of the streptococcus hemolyticus as the apparently responsible organism.

2. The marked difference between the violence of reaction of the early and late cases.

They were conspicuously dissimilar in that in the former the infectious agent showed a specific predilection for serous membranes, especially the pleura, with either an abscess of, or a late development of, involvement of lung tissue, while in the latter the converse was true.

Before going into a more detailed discussion of Hemorrhagic Pneumonitis, I wish to bring out one other point that applies to both epidemics, namely, the striking way in which the physical signs followed those usually described as belonging to, or to be expected, in the

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

respective conditions. Of course there were some cases where two and two did not seem to make four, but as a rule in the fluid cases the positive findings over the fluid, the findings over lung tissue adjacent to fluid, and over the un-involved side together with the displacement of solid viscera, enabled us to make rapid and accurate diagnoses. The Hemorrhagic Pneumonitis cases gave us more trouble, certainly until X-ray studies and postmortems enabled us to interpret our findings sufficiently well to know their significance. Here, as stated above, we were dealing with a condition not only new to us, but one not previously described in medical literature.

Early in the course of the epidemic of Hemorrhagic Pneumonitis we recognized that we were dealing with pathology that was new to us. Since returning to the States, and obtaining in consequence access to literature not available while away, I have learned that a similar condition existed here at home and was generally recognized. Nevertheless, in spite of this general recognition, it appears from the reports from some of the camps that their authors failed to see this very important fact: we were dealing with either a new infection, or with an old infection that for some reason was producing a new disease. In the American Journal of Roentgenology for June, 1918, John Hunter Selby reports the X-ray findings in "Hemorrhagic Pneumonitis" as seen at the Walter Reed General Hospital during the past winter. I was particularly interested in his title on account of the fact that the term Hemorrhagic Pneumonitis was, as we thought, invented by ourselves and employed in a discussion of this subject before the Justice Hospital Group Medical Society in October, 1918.

Between August 21 and December 2, 1918, approximately 13,000 medical cases were admitted to Base Hospital 45. Of these 270 died in the hospital. Two hundred and fifty-five of these deaths were due to some form of pneumonia. The diagnosis of practically all was confirmed by X-ray studies, and postmortems were held on 133 of those that died. These were divided according to the postmortem pathology into the four following groups: 1. Lobar Pneumonia. 2. Acute Interstitial Pneumonia. 3. Broncho-pneumonia. 4. Hemorrhagic Pneumonitis.

It is proper to state that our pathologist, Major Jean Oliver, employed for the last group the term "Hemorrhagic Necrotizing Broncho-pneumonia," on account of the areas of necrosis that appeared in those cases that came to postmortem after an illness of several days' duration. Not only as a matter of choice, but on account of the fact that the term was independently used by observers in this country, I shall stick to "Hemorrhagic Pneumonitis." It is my purpose in presenting this paper to discuss only the last group. Acute Hemorrhagic Pneumonitis may, therefore, be defined as an acute infectious disease chiefly characterized by an inflammatory, hemorrhagic reaction in the lung tissue, probably due to a specific organism. Selby's definition was "An acute localized toxic inflammation of the cells lining the alveoli, bronchioles, and their capillaries, producing a frank pernicious hemorrhage into the air passages." From our observation the use of "localized" cannot be sustained.

Etiology and Bacteriology.

Hemorrhagic Pneumonitis may be primary or secondary. Whether primary or secondary the condition is essentially the same, and this sub-division is used only in order to indicate that in the former instance we were dealing with an original illness, whereas in the latter it developed during the course of some other disease. When secondary it arises as a complication of mustard gas burns of the respiratory tract, bad cold, tonsillitis, pharyngitis, laryngitis, bronchitis, influenza, dysentery, sinus disease or any debilitating condition.

Certain very definite contributing factors must be mentioned, particularly crowded barracks, cold, hunger and exhaustion.

The micro-organisms apparently primarily responsible were the streptococcus hemolyticus, other streptococci, pneumococci, especially type 4, and influenza bacilli. Of these the streptococcus hemolyticus occurred most frequently, either alone, or together with other bacteria, and the influenza bacillus least often, in fact, very rarely.

According to our observations very few so-called influenzas showed the Pfeiffer Bacillus. A series of 3464 cases entered Base Hospital 45 during the epidemic on the Toul sector.

Of these less than one per cent showed positive findings, though they were clinically quite definitely influenza. In consequence we reached the conclusion, as did many others, that several different infectious agents could produce the same group of symptoms, possibly in the presence of some virus accompanying them all, perhaps the filterable virus first reported by Nicholi in August or September, 1918, so far as I know.

Symptoms.

The general picture of a severe case of Acute Hemorrhagic Pneumonitis is very characteristic. The invasion is relatively sudden, though not so markedly so as in lobar pneumonia. It is more accurate to say that the patient becomes seriously ill very rapidly. He knows that he has been ill for several hours but cannot tell you exactly when he began to feel so.

The face is pale rather than flushed, the expression is dull, and the lips, ears, nose and finger nails show an early cyanosis.

Very early, during the first twenty-four to thirty-six hours, dyspnoea becomes distressing in the extreme and marked restlessness and insomnia add their share to the already heavy burden of the miserable patient.

A chill is common, but in the majority of cases on close questioning it develops that there was no true chill, but rather an indefinite and prolonged chilliness.

Repeated hard shaking chills may occur.

Headache occurs, but is not characteristic, consisting generally of a diffuse soreness of the scalp with occipital rather than frontal pain.

Nausea and vomiting are occasionally present but rarely troublesome.

Herpes labialis, tympanites, and meningismus are infrequently present.

The tongue is quite characteristic, furred heavily, very brown, dry, and strikingly fissured, except at the edges and tip, which are clean and red.

The following signs or symptoms are of especial interest and of positive diagnostic value:—hoarseness, nose bleed, subcuticular emphysema, petechiae and bloody stools.

Hoarseness is common, occurs early and is persistent.

Nose bleed is very common, occurs early, during the first few hours, and may be profuse, amounting to a free hemorrhage.

Subcuticular emphysema is interesting, but rare—I only saw it in four cases—being found chiefly in the tissues immediately above and below the clavicle, but also lower down on the chest, on the arms, abdomen and back.

Petechiae and bloody stools were frequently observed but probably only in the presence of the streptococcus hemolyticus. The petechiae were at times numerous, occasionally confluent or associated with intra- or subcuticular hemorrhages of extraordinary size.

Early nose bleed, hoarseness, cyanosis, dyspnoea and petechiae were of themselves practically pathognomonic.

Physical Signs. Inspection shows a facies as described above, dyspnoea, petechiae, or more extensive hemorrhages into or under the skin and in the conjunctiva with marked prostration.

Palpation of the chest is of some value. Conduction is diminished, not increased, as in lobar pneumonia, causing an enfeebled vocal fremitus. Rhonchal fremitus may be present. The Pulse is very rapid, soft and of poor volume and the apex impulse feeble.

Percussion is of great value. During the first twelve to eighteen hours skodaic resonance of one or more lobes is found. During the next twelve to eighteen, scattered areas of impaired resonance or frank dulness appear, alternating with areas of skodaic resonance and true hyper-resonance may be found along the anterior margins and at the apices. This hyper-resonance points to an emphysema, which is indeed easily demonstrable at post-mortem. It is quite remarkable that the sensation to the pleximeter finger and percussion note as a rule even in very extensive processes indicate that the lung tissue is not entirly without air.

Auscultation is of even more value than percussion. Both modified and adventitious breath sounds are present. The modification confirms the diminished conduction elicited by palpation, showing diminished vesicular breathing, passing later into a complete loss of normal breath sounds. Vocal resonance is diminished.

The adventitious sounds consist of both dry and moist rales, with a very general distribution. The dry rales are either small squeaky

sounds, or more coarse and cooing in character. They generally disappeared if the patient lived longer than forty-eight hours. The moist rales are at first only small crackling sounds, heard only on deep inspiration, but later become more coarse, very numerous and persistent, of general distribution and heard at any time during inspiration or expiration.

The heart sounds are feeble and indistinct from the beginning, in sharp contrast to the accentuated sounds heard in the first stage of lobar pneumonia.

Pathology and Histology.

Quoting Major Oliver, "In the initial stages of the affection the lungs are deep purple in color, especially posteriorly, and of a firm, doughy consistence, in that they pit on pressure. The pleura is smooth and glistening, and may be covered with hemorrhages, from just visible to 1 cm. in diameter. On cutting into the lung tissue, an intense hyperaemia and edema is the prevailing picture. Bloody fluid flows out of the sectioned lung and collects in a pool on the table. The cut surface is bright red, with scattered here and there areas of dark red to black, which areas are slightly more firm than the surrounding tissues. In spite of careful search it is impossible to find any true consolidation at this time. The bronchi are filled with frothy blood-stained fluid, and their mucous membrane is extremely hyperaemic. This hyperaemia extends up the trachea to its upper third. The larynx is, as a rule, uninvolved. The peribronchial lymph glands are swollen and on section extremely moist. Often they are deep red in color and blood pours from them on section. This enlargement was especially noted in those cases due to haemolytic streptococci, one gland in some instances measuring 5 by 2 by 1 cm." The final stage shows a necrotic process, with either "wide spread areas of necrosis, or more localized softened areas whose purulent nature justifies the use of the word abscess."

Histology.

"The capillaries of the alveolar septa are tremendously dilated and filled with large numbers of leucocytes." "The small bronchi are filled with pus cells." "The picture is soon complicated by the appearance of hemorrhages. These appear in isolated spots, so that a group of alveoli is seen filled with red blood cells, generally located around a good-sized vessel." The terminal bronchi are destroyed.

In the larger bronchi two types of lesions have been observed; one a definite false membrane composed of fibrin and leucocytes, covering the entire wall, and the other a complete necrosis of the mucosa and submucosa.

The Blood is quite characteristic. There is as a rule a marked leucopenia, counting in one case only 1,400, in several below 3,000 and in a large number below 5,000, with sixty to seventy per cent polymorphonuclears and twenty to thirty per cent small lymphocytes. Blood cultures were positive for the streptococcus hemolyticus or other bacteria in a sufficiently large number of cases to warrant a belief that Acute Hemorrhagic Pneumonitis is primarily a septicemia.

Treatment

The line of treatment we followed was, of course, symptomatic. We procured rest by setting aside special wards for these cases, applying warmth to the body, using anodynes or morphine. We fed them as well as possible, paid attention to the skin, bladder and bowels, and to the cleanliness of the teeth, mouth, nose and throat. We tried counter-irritation, venesection, and the usual stimulants when we could get them, aromatic spirits of ammonia, strychnine, spartein, caffein, whiskey, brandy, and digitalis, particularly digitalis. I believe that in ordinary frank lobar pneumonia the indication for digitalis is pneumonia, that we should begin it as soon as we make the diagnosis and keep the patient thoroughly digitalized well on into convalescence. I am not satisfied that it does any good in Hemorrhagic Pneumonitis. In fact there were only three things that seemed to me to do any good.

1. Counter-irritation with large mustard plasters, which undoubtedly in some cases relieved patients of their subjective air hunger. 2. Venesection, especially where there was rapid filling up of the lungs and marked cyanosis. 3. Morphine, in large enough doses to allay restlessness and produce sleep.

In conclusion, your attention is invited to the use of foreign protein in this type of pneumonia, or in any other type accompanied by a low leukocyte count. This work is not standardized, but is undoubtedly full of promise, and the work of McQuarrie and Whipple, of

Roberts and Cary, and of Wells, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, encourage us to believe that properly used, in properly selected cases, they may be very useful.

1009 *West Franklin Street.*

EMPYEMA OF THE CHEST.*

By W. LOWNDES PEPLE, M. D., F. A. C. S., Richmond, Va.
Professor of Clinical Surgery, Medical College of Virginia.

If one needed an excuse for presenting so time-honored a subject, at least two can be easily supplied. First, an entirely new type of the disease (or one so old as to have been quite forgotten) made its appearance in the winter of 1917 and 1918 and swept like a scourge through our military cantonments.

Secondly, men in over-seas service saw more cases of the traumatic type in a few weeks than are usually crowded into a busy professional lifetime.

To discuss the whole question in stereotyped fashion would be but a tax upon patience. I will, therefore, touch lightly on the obvious and settled questions, giving more time and space to such phases of the disease as seem still debatable. The condition naturally divides itself into three classes or divisions: the pneumococcic, usually post-pneumonic: the traumatic, which may be caused by any or by several of the pyogenic organisms: and the streptococcic, usually produced by the streptococcus haemolyticus.

Intimate contact with a large number of such cases teaches certain valuable lessons. First, while we may get pretty good results in this or that case by haphazard methods, in the long run, results will be far better if we know the organism with which we are dealing.

Routine microscopic examination of the chest fluid by smear and culture is necessary. In obtaining this fluid, an open trocar or needle should never be used. If a small syringe half-filled with weak cocaine solution is used, by noting the diminished resistance of the plunger, one can easily tell when the needle is in the cavity. This is also more humane, as it is painless. A distinguished clinician once said, "One may use the needle only to determine the character of a fluid in the chest, never to determine its presence in the chest."

In this connection one can not say enough of the X-ray when skilfully handled and interpreted. It not only shows the presence of fluid, but its location and all the vagaries of pocketing. It will reveal an active pneumonia, an active tuberculosis, and will now and then save an innocent chest by revealing the trouble beneath the diaphragm. Lastly, as a measure of recovery; with it we can watch our cavities recede before the expanding lung, and can know when this is complete.

PNEUMOCOCCIC EMPYEMA: Of this we have not learned a great deal more in the past two years than we knew before. It usually follows a pneumonia. We should wait at least a week from the crisis before operating, the patient's general condition being our guide. Aspiration here can be done for mechanical relief if needed.

We must open the chest at the lowest point of the pus-cavity. This can not be pre-determined, as this is the type that pockets, and each case is, therefore, in a way a law unto itself. I strongly advise removal of a piece of the rib. It should be done if possible under local anaesthesia. The tube should be short, so as not to injure the lung and make a fistula. It should be securely fastened by means of a pin too large to slip into the chest.

TRAUMATIC EMPYEMA: There was much of this in the Base Hospitals of France. It followed all kinds of chest-injury, from the clean-cut hole of the machine-gun bullet to the extensive lacerated chest-wounds, penetrating and non-penetrating. It followed in quite a number of the sucking chests closed in the Evacuation Hospitals.

The startling thing was the number of pleuras filled with blood that did not go on to suppuration but cleared up completely under aspiration. Of the cases that went on to suppuration, most that I saw were pneumococcic, and behaved much as the post-pneumonic cases did. The big thing learned was the resistance of the normal pleura to infections that come from without, by trauma.

STREPTOCOCCIC EMPYEMA: This is rather a loose title used to designate an infection, the most prominent feature of which was the presence in the pleura of large accumulations

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of fluid containing the streptococcus haemolyticus.

That the infection ever attacked the pleura without lung involvement is problematical. In cases severe enough to cause death, involvement of the lungs and other organs was almost the invariable rule. But, on the other hand, primary streptococcic peritonitis without visible visceral lesion was by no means uncommon.

There has been much controversy concerning the management of such cases, due, I believe, largely to the varying intensity of the disease in the different cantonments and in the same cantonments at different times. At any rate, the opinion of the clinician on the spot at the time, in such a crisis, provided he be honest and intelligent, should carry much weight in the handling of similar outbreaks, and it is in that spirit that I briefly recount the epidemic at Camp Lee, and the measures we took to combat it.

In December, 1917, there was an epidemic of mumps and measles, coughs, and colds, and our hospital was very much crowded. About this time there occurred a number of cases diagnosed as pneumonia, which had a rapid, fatal termination.

Postmortem revealed large quantities of straw-colored or cloudy fluid in their pleural cavities, and this contained the haemolytic streptococcus. The mortality was so extremely high and the whole course of the disease was so precipitate, that subsequent cases were referred to the Surgical Service as soon as the presence of fluid in the pleura was detected.

Let me impress upon you here the urgency of the situation: men fell ill and were dead in a few days. Unless something were done quickly, there would be no one to do it on. Left alone, they died like sheep. I do not know what the mortality was on the medical side, at this the most virulent stage of the disease, but it was extremely high.

Seeing that we were facing a serious situation, we evolved the following plan of procedure: All cases were aspirated with a small Luer syringe for diagnostic purposes. A smear and culture were made. If the smear was positive, he was operated on. If the smear was negative and the patient was not suffering mechanically, we waited on the culture. If the patient was suffering mechanically, we aspirated for mechanical relief, with a Potain aspirator. If the culture proved positive next day, we operated.

All cases went through the X-ray room, and latterly we learned to rely on this agent to a greater and greater extent. In this way we avoided opening several tubercular pleurisies, a few lobar pneumonias, and several simple exudates which were re-absorbed or relieved by subsequent aspirations.

We would not operate in the presence of a lobar pneumonia. We would not operate where both sides were involved. We would not operate where peritonitis was a complication. We would not operate where there were multiple joint lesions. We learned not to operate in the presence of a septicaemia or during the active stage of measles. In the few of these in which operation was done, the mortality was extremely high.

Thirty cases came in the first thirty days. They were operated on, and eighteen or sixty per cent died. All were done under cocaine or novococaine. We removed a piece of the 7th rib, usually in the mid-axillary line. Postmortem showed that none of the fatal cases had been drained. There remained from 500 to 3000 c.c. of fluid in the chest. Aspiration of the living cases with a tube and glass syringe showed a similar condition. We reoperated on several of the worst, and drained them properly with good results.

We now started removing the 8th rib in the posterior axillary line. Our mortality dropped to twenty per cent in the next seventy cases, where it remained with minor fluctuations until the character of the epidemic changed.

I will state here that practically every case posted presented some complication that was sufficient in itself to cause death. There were endocarditis, pericarditis, peritonitis, pneumonia, lung abscess, multiple abscess of the liver, kidneys, etc. These cases all went on record as deaths from streptococcic empyema, since this was the title chosen to designate a condition which was new to us all and which we were all earnestly striving to combat.

Had all such cases been eliminated and distributed to the actual pathologic cause of death, our mortality would have been greatly reduced and our record much better. But I

do not think as fair a picture would have been presented of the condition as it actually existed. If we had dodged the worst risks, and God knows there is a temptation to dodge anything with a mortality of sixty per cent, our figures would have been much improved. On the other hand, there are many of those desperate cases who are alive and well today. Would they be here if the septic fluids had been left in their chests?

Look at the problem: We have from 1000 to 5000 c.c. of fluid filled with bacteria and loaded with toxins in the pleura under pressure. It accumulates and re-accumulates with startling rapidity. One can not empty the chest with an aspirator. Cases frequently needled will show a collapsed lung with bloody fluid. It is by no means a procedure free from danger. The needle often goes through pus into the lung. We know what happens when we drop a wire into pus and thrust it into a culture medium. When the needle goes through pus into lung-tissue we duplicate this procedure.

Before going into the details of the treatment I will again call attention to the varying intensity of the disease as it progressed. In the beginning it was virulent beyond anything I ever conceived.

Strong men, picked for their vigor and youth, fell ill and were dead in the space of two days. As the winter wore on, the cases became fewer in number and less virulent in character. With the advent of spring, whether from attenuation of the virus or an increased resistance on the part of the patients, the cases became still milder in type. Time could be taken; one could plan and choose as to a method of treatment. As it grew warmer and the ground dried up and the sun came out and the windows were opened, the epidemic went to sleep for the summer.

Treatment: Drainage; heat; rest; food. I speak now of the early virulent type of the disease.

Drainage: Drain early; drain far back and low down. Take out a piece of the rib. The eighth rib in the posterior scapular line is the point of election. Let them drain into their dressings. The little niceties of drainage into bottles and negative pressure apparatus can be attended to later. Thoracotomy, or an incision between the ribs, we tried and abandoned. It did not drain, and is little less severe an operation than removal of a piece of the rib, which does drain.

Aspiration: In the severe type of case. We tried this as a substitute for operation in a series of five cases when the epidemic was at its height. All grew rapidly worse and were operated on at a time less favorable than when aspiration was begun. All died, and we abandoned it in this class of cases. In the less severe class of cases, aspiration may fill a useful function by unloading the patient's chest of toxins as his reactive forces are assembled. If his general condition warrants delay until the fluid has become converted into true pus, we have a clinical picture much like the pneumococcic type, which is easy to deal with.

Heat: Keep them warm before, during, and after operation. However beneficial it may be to put pneumonia cases out of doors in mid-winter, it will certainly kill these people. They must be kept warm. I can not speak too strongly on this point.

Rest. Let them alone! They are all terribly tired, and anything that worries, nags, or frets them will do them harm.

Food. Give them all the nourishing food they can take. As was first pointed out, I believe, by Major Lawrence Litchfield, Chief of our Medical Service, these cases are suffering a terrific nitrogenous waste in all the mass of serum and pus they are throwing off. This must be replaced by an abundance of food rich in proteid. It is a question of the greatest importance. Milk and eggs should be furnished in abundance.

Dakin's Solution. Undoubtedly the external wounds were kept cleaner by its use and the careful technique that went along with it. I do not think one can sterilize the inside of the chest with this or any other antiseptic. It occasionally finds its way into a bronchiole. It is not free from danger. It disturbs the patient's rest by day and breaks his sleep by night, and at times keeps him wet and uncomfortable. I would not have my own chest Dakinized, if I had any choice in the matter.

Results. Some of the severe cases drained freely and closed permanently in a short while without any solution being used inside

the chest. Others drained for a long time. Others puddled and pocketed, opened and closed for variable periods. But on the whole, the results were good.

We had a large group of healed cases whom we segregated in separate wards. Their weight and color had returned, their appetites were fine. Their lungs were expanded, and to all appearances they were well men again. I loved to walk among them when I felt most discouraged. Many of them, I am sure, would not have been there had they received less radical treatment.

1209 *West Franklin Street.*

KIDNEY FUNCTION.*

By Wm. M. COPPRIDGE, M. D., West Durham, N. C.

The purpose of this paper is to comment on the various types of renal cases seen in the Watts Hospital during the past few months and to state the methods used and results obtained in studying the kidney function. We have no long series of any one type to report nor do we wish to particularly emphasize any one method of studying these cases, but to simply state our experience with the subject in a busy general hospital.

In the past, many methods have been in use to determine the work the kidney is doing. Strange to say, none of them has ever been very popular until the introduction of the phenolsulphonephthalein test of Rowntree and Geraghty. In the past, the examination of the urine for evidence of pathology in the kidney has constituted the chief method of diagnosing the kidney conditions. Knowing as we do that function does not always suffer to the same extent by the same pathology, it is evident that the former methods of studying kidney cases were very fallacious. Of late the newer methods in blood chemistry give us a valuable aid in determining to what extent substances which should be excreted by the kidney are retained in the blood,—in other words, how much of its work the kidney is not doing.

In addition to the routine urinary examination, we have used the phenolsulphonephthalein test and blood urea determinations after the method of Marshall. We realize that these tests are not sufficient to classify all types of nephritis or to prognosticate them with any degree of surety, yet we feel that they are as a whole the most useful, and have accordingly used them in most of our cases. Sellard's test for acidosis we have found very practical and useful in that it is simple and seems to give very important information regarding the extent of acidosis. The other more elaborate tests such as carbon dioxide determination in alveolar air we have used but very little.

The cases have been so varied as to allow of no practical classification. Most of the cases studied have been surgical and obstetrical, where renal involvement has been secondary or complicating. The surgical cases have as a whole been very interesting because of the fact that a large number of them have shown poor kidney function with urea retention when there has been little or no change shown in the routine urinary examination.

As a whole the output of phthalein and the urea retention have run parallel, but in some cases this has not been true, especially in the acute toxic cases. In the cases of chronic nephritis, the lowered output of phthalein has been accompanied by a retention of urea in the blood. In acute toxic types where the liver is also involved in the process, the urea of the blood remains normal or is even decreased. One case of bichloride of mercury poisoning showed a zero phthalein output for two hours, with blood urea below normal, being in several examinations 15-20 milligrams per 100 c. c. of blood, the normal being 20-40 milligrams. This patient died in 36 hours. In most cases showing a decreased phthalein output the test of Sellard has been pronounced. In this test, which is essentially one in which we attempt to roughly estimate the degree of acidosis, the patient is given 5 grams of sodium bicarbonate by mouth. In a normal person this amount of soda should cause the urine to become alkaline. If the urine remains acid after such a dose of bicarbonate of soda it is indicative of acidosis. After a few hours another larger dose may be given and repeated in case the urine is still acid, so in that way we may arrive at a reasonably accurate determination of the degree of acidosis.

Regarding the surgical cases studied, we have been interested in the extent to which ether anesthesia will lower the phthalein output. In a series of some twenty cases in the service of Dr. Foy Roberson, a phthalein test and blood urea determination were made be-

*Read by title before the Tri-State Medical Association of the Carolinas and Virginia, in Charlotte, N. C., February, 1920.

fore and after anesthesia. The tests were made 24 hours before the operation and within 24 hours after operation. We found that as a whole the phthalein output was reduced after an anesthetic to about one-half what it was previously. As might be expected, the blood urea was not increased after the anesthetic even though the kidney function was low, because of the toxic effect of ether on the liver as well as the kidney, and the production of urea is accordingly diminished. We have found that there is a mild to severe degree of acidosis following anesthesia as reflected in the increased amount of sodium bicarbonate required to render the urine alkaline. One of the most interesting features has been the large number of surgical cases with very little change in the urine showing a low phthalein output with blood urea retention. Cases of exophthalmic goitre have usually shown a low phthalein excretion with urea retention. In several cases of intestinal obstruction we have been able to confirm the findings of McQuarrie and Whipple in dogs, that these cases show very low phthalein outputs with tremendous retention of urea. Following relief of obstruction these cases show very marked improvement in renal function. This factor of reduced renal function no doubt plays an important role in the high mortality from the condition. It should emphasize the great importance of short anesthesia in operation for intestinal obstruction, with the use of nitrous oxide and oxygen anesthesia whenever it is possible.

Practically all the obstetrical cases studied have shown some impairment of renal function as evidenced by the phthalein test. Of course our attention has been directed almost exclusively on hospital cases, — cases usually with known kidney injury. Many cases not known to have serious kidney lesions have been found to show very low outputs of phthalein. Blood urea determinations, it must be remembered, on these cases may be very misleading if used as an index to renal function. In cases of impending toxemia, even with evidence of severe kidney impairment, the urea in the blood is usually reduced with a great increase in the ammonia nitrogen. So in these cases, which practically always show marked urinary changes, blood urea will not be increased but perhaps reduced. We have felt that with the phthalein test and the blood urea we have been able to sometimes differentiate between real toxemia of pregnancy, where the kidney lesion is secondary to the toxemia, and the cases of acute nephritis complicating pregnancy. In the so-called toxemia of pregnancy the phthalein will be low as well as in primary nephritis, but in the former the blood urea will be low because of the liver injury; in the latter it will be high because the liver is not affected and the urea is increased in the blood. We have seen several cases with phthalein output of 5-10% with blood urea estimations below normal, and the next day the patient go into toxemia with convulsions. On the other hand cases with 10-20% phthalein outputs with high blood urea have been more responsive to treatment, and we believe in the latter cases the condition was renal rather than general. It seems that the phthalein test deserves a wider use in pregnant women. The ordinary urinary examination, while of distinct value, is not so trustworthy. Very serious renal impairment may exist with the urine showing only a slight trace of albumen. With phthalein tests repeated at intervals of a month o thereabouts, as the case may demand, very valuable information of just the work the kidney is doing may be had. Especially is this true in cases known to have kidney injury in the early months of pregnancy. A continued decrease in the phthalein over any considerable period, which is not affected by treatment, should be a good guide in the later months when the physician considers interruption of pregnancy.

The medical kidney cases seen in hospitals are usually chronic ones with poor prognoses. In these cases the blood urea is of value when combined with phthalein test. The question in these cases is usually one of prognosis, and we have not been successful to scarcely any extent in doing this with the tests we have used. One case with from zero to 5% phthalein, and blood urea readings of 230-250 milligrams per 100 c. c. of blood, maintained this condition for 10 weeks and part of the time was walking about the ward. He finally went suddenly into uremia and died within 24 hours. Other cases with very much less retention of urea and with much higher phthalein outputs have died in shorter periods of time.

These cases show us that the kidney function tests are of little value in such cases. On the other hand, it is in the incipient cases

those of the hard-working business man or others who have beginning kidney injury, that the function tests are of greater value. We know that the response to treatment in early cases of nephritis is a very favorable sign, and it is with the blood urea and phthalein tests that we can with a fair degree of precision follow these changes.

In nearly all cases showing kidney injury as reflected in the function tests, there has been a mild to severe degree of acidosis. As stated before, we have used Sellard's test for determining this, and find it, though crude in some ways, to be very helpful. Some cases have had such a degree of acidosis that in spite of administration of as much as 3-4 ounces of sodium bicarbonate in the 24 hours the urine remained acid, showing that this large amount of alkali was used up without neutralizing the acids present. The acidosis has been most pronounced in the renal cases of pregnancy.

In all the cases studied we have found that rest in bed, with restricted salt-free diet (preferably milk) combined with alkalies, has raised the kidney function considerably. Both the phthalein test and blood urea tests show very marked improvement. The guide to the amount of alkali that should be given has been very slight alkalinity of the urine. Any alkali beyond this serves no useful purpose and may do harm. Of course the chronic nephritic when allowed to return home usually after a variable length of time relapses.

We feel that this line of treatment for cases showing kidney injury during pregnancy is very valuable. If the diet is controlled, alkalies administered, and elimination kept up, the kidney function will invariably rise. Function tests at intervals will show the progress of the case.

In the surgical cases, we have seen the tremendous fall in kidney function caused by ether anesthesia. Dr. MacNider, of the University of North Carolina, has shown that this fall in function caused by an anesthetic is associated with, if not definitely caused by, a disturbance in the acid-base equilibrium. He has shown that the administration of alkalies before an anesthetic protects the kidney and prevents to some extent the fall in phthalein following ether or chloroform.

The phthalein test, we believe, is the most useful of any test yet devised in determining the function of the kidney. The simplicity and accuracy make it easily the favorite for routine use. There are few fallacies in the test. We believe that the blood pressure does influence, certainly to some extent, the amount of phthalein excreted. In two cases of low systolic pressure (about 90) the phthalein has risen from 25 per cent. to about 50 per cent. when the systolic pressure was raised to 120. The presence of bile in the urine in several cases has interfered with the accuracy of the test, but as a whole it has been most satisfactory.

Blood urea determinations have been useful, but as a whole, are variable. The food intake, exercise and activity of the liver are all factors which tend to make it less useful as a test for renal function. In chronic nephritis and in acute uncomplicated nephritis it is useful, but we find it has little or no advantage over the phthalein test as a routine. Of course in metabolism studies the blood urea determinations are of great importance, but we do not believe that as a test for determining kidney function it is as reliable as the phthalein or blood creatinin determination. Our experience with blood creatinin has not been very extensive, but very promising. The stable amount in the blood, the little change caused by diet, etc., make it in these respects more important in determining kidney function.

Several points we feel we have had impressed with our work on the subject: 1*st*, the large number of patients showing definitely low function where renal disease was not suspected after urinary examination; 2*nd*, the great extent to which ether lowers kidney function even in cases showing normal function previously; 3*rd*, the rapidity with which the function rises when the patient is taken thoroughly in hand and placed on suitable diet with alkaline treatment; 4*th*, the great value of the tests with obstetrics. We feel that more general use of the function tests, particularly the phthalein, will enable the surgeon to select his cases with more accuracy and the obstetrician to diagnose and determine the extent of kidney injury complicating pregnancy, often preventing the catastrophes of a later pregnancy. To us the phthalein test has been, on the whole, the most generally useful.

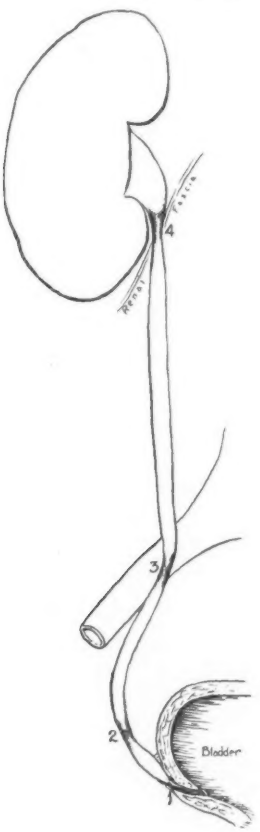
WATTS HOSPITAL.

STRICTURE OF THE URETER AND TREATMENT.*

By LAWRENCE T. PRICE, M. D., Richmond, Virginia.

The subject of stricture of the ureter, like many other conditions with the advancement of medical science and the perfection of certain mechanical devices during the past ten years, has attracted the attention of urologists to the fact that strictures of the ureter do occur very commonly.

Considerable discussion has arisen as to the probable causes. Reviewing the anatomy of the ureter, you recall that the ureter has certain normal contractions or points of narrowing of the lumen of the ureter (see diagram), in the



male three and in the female four; namely, beginning from the vesicle end: First, at the meatus and where the ureter passes through the bladder wall; second, at the crossing of the iliac vessels; third, at the uretero-pelvic junction; fourth, in the female, where the ureter passes through the broad ligament. Between these points there are more or less dilatations of the ureter, which is normal and corresponds to the pendulous portion of the urethra in the male. The constrictions occurring at the meatus and the uretero-pelvic junction are the most definite. As in the urethra, under certain conditions, such as traumatism of various characters, a spasmodic stricture of the ureter may occur to the extent of producing symptoms. Pathological stricture is divided into congenital and acquired stricture. Bottomley reports a large series of congenital strictures. These unquestionably occur as congenital irregularities elsewhere. Such strictures may be located at any point in the course of the ureter and, as such, are rarely recognized short of the post-mortem table or during examination or operation for other conditions. Acquired stricture of the ureter is a quite common condition and up until a very few years ago was not recognized, nor was there ready means of treatment for this condition after being observed.

The majority of the acquired strictures of the ureter occur at the meatus and are secondary conditions to some bacterial infection of the urinary tratc, or traumatism.

Under the heading of bacteria, the most frequent is tubercular bacilli, then colon, staphylococcus and gonococcus. A focal infection of some character remotely removed, such as diseased tonsils, sinuses, bad teeth or gastro-intestinal conditions, may be illicited; in others, a definite pyelitis or pyelonephritis.

In quite a number of cases a history of a chest tubercular infection, which has long since become latent, can be obtained and the healed areas can be demonstrated by X-ray of the chest, or an active tubercular involvement of the urinary tract either of the kidney or bladder. Tubercular infection of the kidney is accompanied by ulceration about the meatus, which subsequently heals, leaving cicatricial tissue.

Under the heading of traumatism we have the passing of calculi from the kidney, operations of the pelvis, and wounds of various characters.

In either instance the process of develop-

*Read at the meeting of the Tri-State Medical Association of the Carolinas and Virginia at Charlotte, N. C., February, 1920.

ment of stricture is the same. Namely, destruction of the superficial mucosa, infiltration of urine into the tissue, inflammation and proliferation of the connective tissue cells and subsequently the formation of fibrous tissue. This newly formed tissue is quite dense and non-dilatable.

The age in which stricture of the ureter is most commonly seen is between twenty and

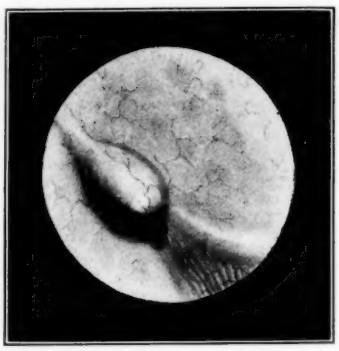


Figure 1.

forty years, there being no difference between male and female, which time is in keeping with the causes, though stricture of the ureter may occur at any age.

The symptoms of stricture of the ureter are not always clear-cut in but few instances. The diagnosis should be arrived at by exclusion. The average case will relate having had either a constant or irregularly occurring pain which may be acute or of a dull character, for over a period of several years. Associated with the pain there may be frequency of urination. Hunner, in a series of fifty cases, found that the average duration of symptoms was four and a half years. The pain usually occurs in the region of the kidney and radiates over the course of the ureter, as a stone in the kidney. If the stricture is spasmodic, relief will be obtained by the elimination of the cause of the spasm. However, in true pathological stricture, the symptoms vary according to the patulency of the lumen of the stricture. It may become acutely congested and the opening in the ureter entirely closed either temporarily or permanently. When this occurs the condition of hydronephrosis is the result. Associated with these attacks there may be chills and temperature. Examination of the urine may or may not show blood cells or pus. The relief of the symptoms by dilatation of the stricture, by passing of catheters or bougies when attempting to fathom the cause of the symptoms, will relieve the patient and thereby assist in making a diagnosis. The symptoms are quite similar to stone in the kidney or ureter and, if in the right side, to acute appendicitis, and at times the diagnosis is difficult to arrive at, particularly if an X-ray examination gives negative findings for a stone, the urine being negative and leukocyte count not made. The final diagnosis of stricture of the ureter is absolutely left to the cystoscopist and the results of his examination. If the stricture be at the meatus, a mere observation of the opening does not in all instances reveal the condition and it is not made out until an attempt to pass a catheter or bougie is made. However, in some cases a distinct ballooning out of the ureter with each functioning, causing a distinct tumor, may be observed, as in the case reported and shown by the accompanying drawing (Fig. 1). In others, the urine filters through the stricture constantly and thereby does not cause any definite dilatation above the stricture. Repeated efforts to pass the stricture with reducing size of bougie or catheter

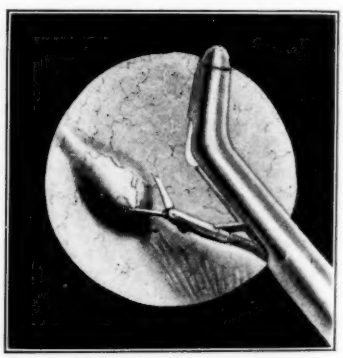


Figure 2.

will ultimately reveal the size of the stricture, the procedure being the same as in the diagnosis of a stricture in the male urethra. The information obtained will give the location, character and size of the stricture.

Should the stricture be higher up in the ureter, the procedure is the same and the confirmation of these findings must be corroborated by an X-ray after a sodium bromide

or thorium solution has been injected into the ureter. If there be much hydronephrosis or hydro-ureter due to the stricture, the characteristic continued dropping of the urine will be observed from the catheter after the eye has been introduced beyond the stricture. Wax tip catheters or bougies in every instance should be used to determine the location, size and character of the stricture, ex-

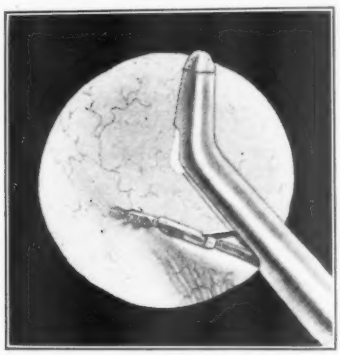


Figure 3.

cept those occurring at the uretero-pelvic junction.

The treatment of this condition is quite simple, irrespective of its location, but, as in the external and internal urethrotomies, the method of procedure is governed by the location of the stricture.

Those located at the meatus and as high as the pelvic brim can be treated by dilatation and in those at the meatus, which do not respond to dilatation, meatotomy followed by dilatation produces the desired results. Those occurring above the pelvic brim must be approached by an opening through the abdominal wall and retrograde dilatation done. The dilatation with bougies through an operating cystoscope, such os the Brown-Berger, Brassch or Kelly instrument, is a simple procedure and, if the dilatation can be made complete and the patient seen at intervals to keep the stricture open, satisfactory results are accomplished. However, for those strictures of the meatus which are non-dilatable, the procedure is to first do a meatotomy with the Bransford Lewis scissors and dilate to the desired size and keep open by passing of bougies as above (Figure 2). Hemorrhage from the cutting is of no significance and does not require any attention.

The retrograde and dilatation operations can be done through any incision by which you can get to the ureter extraperitoneally. Should the stricture be at the uretero-pelvic junction, the pelvis of the kidney is opened and increasing sized bougies are passed. In the other portions of the ureter, the ureter is opened above the stricture by a longitudinal incision and dilatation accomplished and the wound closed in the usual manner after ureterotomy.

The following case is a typical example of stricture of the meatus, which shows with accompanying drawings the condition which existed.

Mrs. C. V. E., aged 37, married. She gave a history of having had a gonorrheal cystitis about ten years ago. Beginning eight years ago, she began to have pain over the region of both kidneys which was preceded by an acute pain on both sides, deep in the pelvis. The attacks of pain would be of an acute character and would be relieved by taking a hot hip bath. She was X-rayed for stone and various medical treatments were advised during the period until she came under observa-

Figure 4.

tion. A catheterized specimen of urine did not show anything but an occasional blood and pus cell. Cystoscopic examination revealed a negative bladder and apparently the ureter openings were normal in appearance but, upon closer observation, it was observed that with the functioning of each ureter there was a ballooning out of the portion of the ureter which passes through the bladder wall, on both

sides, causing a tumor the size of the end of the thumb with the meatus at the tip (Figure 1). After the functioning had been completed the tumor would disappear to re-appear again (Figure 5). Both sides were identical. An attempt to pass a No. 6 ureteral catheter was impractical, however, a No. 2 bougie could be passed but attempts to increase the size of the bougie were not successful. A No. 2 catheter was introduced into both ureters and specimens obtained, which showed microscopically in both specimens an occasional pus and red blood cell. A subsequent examination with the injection of thorium showed a dilatation of both ureters, the right being somewhat larger than the left, also a flattening out of the calices of both kidneys, manifesting the condition of hydronephrosis. This patient was subjected to a meatotomy with the Bransford Lewis ureteral scissors and dilatation with bougie up to No. 10 and subsequent dilatations at intervals. She was seen first in November of 1919 and, after the ureterotomy was done, she has not had any further trouble. The urine is negative upon examination and her health has improved and apparently is normal.

Figure 5.

SOME FOREIGN IDEAS ON PEDIATRICS.*

By JOHN A. FOOTE, M. D., Washington, D. C.

It is many years since our pediatrists thought that it would be a good idea to have mother's milk analyzed, and determine its percentage of proteids, fats and carbohydrates. It is enough to say that the statement was made that mother's milk contains 2 to 3 per cent. proteids, 4 to 5 per cent. fat and 6 to 7 per cent. sugar. To so modify cow's milk that it would conform to mother's milk in its proportion of proteids, fats, and carbohydrates was deemed a solution of the feeding problem. Holding to this idea as its gospel, the percentage method of feeding, with its wonderful and far-reaching effects on infant nutrition was inaugurated. Infant mortality rates decreased, otherwise hopeless cases of malnutrition were saved, and great and deserved honor was accorded the "American" school of infant feeding by percentage mixtures.

I feel certain that no one will dispute that the principles underlying our methods have been based mainly on the following propositions:

Mother's milk contains about the same amount of fat as cow's milk and contains more sugar than cow's milk. Casein appears in the stools of milk-fed babies when fat and sugar are well digested, and proteid is undigested. Hence, the proportion of the proteid of cow's milk should be relatively diminished.

The appearance in the stool of white particles, insoluble in ether, indicates the presence of undigested casein; to supply a colorine deficiency, it has been considered well to increase sugar and fat feeding while cutting down proteid. This, in brief, has been our custom, and generally it has worked well in most cases. Sometimes, however, it has worked badly. Some cases seemed to break all rules of the percentage theory. We have been very proud of our American school of feeding, and so perhaps we have not listened so intently as we might to what the foreigners have been doing.

In Germany and Austria are several iconoclastic men who are tearing down some of our temples of knowledge about infant feeding. One of these, named Heubner, analyzed the milk of 2,000 women and found that in our feeding scheme we had estimated our fat contents too high, our proteid contents too low, and he made the amazing statement that proteid was well digested by the average infant; fat poorly digested. Still further, he was helped to this conclusion by the fact that the alleged white curds in the stools are not

*Address before The Woman's National Society of Keep-Wells, Washington, D. C.

curds at all, and not fats, but fat scraps which are, of course, insoluble in ether, or else decomposed secretion of the intestine itself. We have all seen white particles in the stools, days after milk feeding has been stopped and after the bowels have been well emptied. These are the intestinal products mentioned by Heubner.

This is very revolutionary; it upsets some of our periods of time.

Long ago, Budin attempted to feed infants according to caloric requirements, estimating the heat-units of mother's and cow's milk in the usual terms, fat giving 9.3 calories, proteid and sugar each 4.1 calories, in each gram. Heubner has used his 2,000 cases to determine the average caloric requirements of infants of various ages, and discovered that for the first couple of months about 30 calories are required; second to sixth month, 40 calories, and sixth to twelfth month, 35 calories for every pound of body weight.

Backward children require the same caloric amount as if their weight were up to the standard for their age, say these observers, if these children are to be well nourished.

A disease due to fat overfeeding is described by Heubner, in which the child is stupid or restless, bathed in perspiration, perhaps with some fever and constipation. The urine is concentrated and ammoniacal, the stools gray and putty-like, showing fat soaps.

The child may vomit, and rapidly loses weight. At this time the over-zealous physician often adds fuel to the fire by increasing the fats to correct the weight deficiency. The remedy of Heubner is to feed a fat-free milk for a time and give the metabolism a chance to become normal. Very soon, on this treatment, normal stools and an increase of weight are observed.

The chemical pathology of the disease is explained as follows: The excess of fat in the intestine calls for an increased amount of alkali in order to form the necessary fat-soaps. This too rapid drain on the alkalies causes a condition of alkapenie, with an increased destruction of the proteid molecules and the liberation of ammonia. The ammonia combining with the fatty acids leaves an excess of acid products in the body tissues and acetone is not infrequently found in the urine. The objective symptoms are, in brief, the typical symptoms of an acid intoxication. This condition occurs with us not infrequently after the sixth month of infancy, being the period when we feed a maximum of fat.

Heubner's rules for infant feeding are simple indeed. Never give over 3 per cent. fat, and the proteid will take care of itself, is his dictum. Estimate what your caloric value should be and add whole milk, water and sugar up to the requirement, keeping the fat low. In most cases the baby will thrive if his caloric needs are satisfied, and any rational proportion is maintained between the ingredients.

As to the quality of the food: Budin's rule is to feed 1-10 of the body weight in 24 hours. According to his rule, a normal child of six months, weighing 15 pounds, should require 24 ounces of milk in 24 hours. This would seem to me too low an estimate. Actual weighing of 2,000 babies shows that they draw 1-5 of their body weight the first four weeks; 1-6 to 1-7 during 1st to 6th month; and 1-8 of their body-weight from the 6th to 12th month. Thus, a child of 6 months, weighing fifteen pounds, should have about 35 ounces of milk in twenty-four (24) hours, representing 40 calories to the pound, or 700 calories in all.

Supposing that we feed this child with what our American system has judged right —a 4 per cent. fat, 2 per cent. proteid, 6 per cent. sugar mixture, made by using as top-milk the upper half from a quart of whole milk and adding an equal quantity of water and 5 per cent. sugar.

This top-milk contains 7 per cent. fat according to the tables, and has 30 calories in each ounce. Sugar has 123 calories in each ounce. So, in 35 ounces of milk we should have 17½ ounces of 7 per cent. fat milk with a caloric value of 17.5 x 30, or 525 calories, plus 5 per cent, or 1.75 ounces of sugar (with a caloric value of 123 calories an ounce) 215 calories, or a total of 740 calories. This is 50 calories more than the average, even feeding only 5 feedings of 6 ounces in 24 hours, and we usually feed more than this. Here we see where our fat overfeeding may easily occur.

The principal use of Heubner's work is

that by his method we can accurately check up the food needs of our infants, using statistics worked out by conservative and careful investigators. This work in caloric estimation is only an example of what the Germans, especially those in Berlin, have done, and it is now being taken up by some American men, notably Walls and Abt, of Chicago, with very great success. It is not a new system, only a check on our old and loose system of theoretical feeding.

Another feature worthy of mention is Finkelstein's experimental work regarding the causation of fever in infants by sugar. He found that any crystalline substance, even common salt, would cause what he called alimentary fever in infants, and believes that the intestinal mucosa of infants suffering from indigestion is usually susceptible, in allowing ingress to the circulation, of unchanged crystalline substance with large molecules. This action he believes to be physico-chemical, and he was able to produce the symptoms almost at will, by feeding sugar to babies suffering from diarrhea.

It seems to be well proven by several other investigators that almost universally those abroad are using weak tea sweetened with saccharine as a beverage in infantile diseases.

The work of the same Finkelstein in infantile eczema—the exudative diathesis, as he calls it—is notable also in view of the prevalence of this malady. Believing that these cases show an undue retention of mineral salts, he feeds milk mixtures in which diluted whey is used as a base, thus removing the salts. He uses whey 3 parts to 1 of water, adding sugar about four per cent. This is especially valuable in fat children. Mendelsohn reports in Archives of Pediatrics three cases fed for several days in this manner, with excellent results.

From France comes a remarkable statement, and recently much attention is given to it, that pasteurized or sterilized milk does not of itself produce scurvy. We have all seen scurvy more frequently in artificially fed infants, and some cases in infants fed with boiled milk, but most of all we have seen it in infants fed with proprietary foods. Every now and then some one makes the statement that the pasteurization of the milk in itself does not cause scurvy, but that the raw milk is deficient in some vital principle, or the child is not able to elaborate all the constituents of the milk.

Variot, of Paris, who has since 1892 fed babies, some 400,000 bottles of, not pasteurized, but sterilized milk heated to 250° Farenheit, has reached certain conclusions after weighing and examining over 3,000 babies fed in this way: (1) That the milk retains all its nutritive value; (2) The calcium precipitation or destruction of enzymes does not affect its assimilability, and not one case of infantile scurvy has been seen in the 3,000 cases treated during the past year; (3) Atrophic cases thrive well on sterilized milk; (4) No case of rickets was seen; (5) Only three or four per cent of the babies did not tolerate the milk well; (6) Constipation and anaemia were not infrequent, but diarrheal diseases were rare.

Finkelstein and Budin report less cases but equally good results with sterilized milk. Berloz, in Grenoble, fed sterilized milk to a large number of children for three years. The mortality among those fed was 27.9 per thousand, while the mortality among those fed on ordinary milk was 69.0 per thousand.

Dr. Rosenau, reviewing this question recently, said, "so far as we are able to judge from the evidence at hand, raw milk has certainly no advantage over cooked milk." Carel of Paris, finds twice as many cases of scurvy among babies fed with fresh milk as among those fed cooked milk. American observers, however, have a contrary experience to this. Certainly it seems that with ordinary precaution, boiled milk may be more safely given to infants than milk polluted with bacteria.

There is danger of dirty pasteurized milk and of not keeping pasteurized milk on ice. Summing up: (1) If you cannot have clean raw milk, then use pasteurized; (2) Scurvy is a disease most common from 9 to 24 months: hence use orange juice after 8 months, and all danger is ousted: (3) Always use pasteurized or heated milk in very hot weather.

Perils of Infant Life.

Is the cow as black as she is painted? seems to be an unusual question. "Who," you will ask, "has attempted to blacken the character of this meek, mild-eyed, servitor of man, the

type through all the ages of the long suffering, uncomplaining, indispensable domestic animal? Who has attempted to convert this harmless creature into a vindictive, diabolical peril to our families and our homes? Who are these libelers?"

Well, to answer you, these libelers are a number of well-meaning gentlemen known as scientists, bacteriologists, pathologists, and physicians, whose business it is to run to earth the causes of disease. They have nothing personally against any cow; but they are entirely devoid of any respect for romantic associations or traditional beliefs when these former are opposed to facts discovered in the laboratory.

If you tell them that in the barbarous period of the development of any nation, the flocks and herds were man's chief source of wealth and sustenance; tell them that the pastoral poets drew all their inspiration from the contemplation of the herdsman, if you remember and quote them Virgil's Bucolics, or anything you please, they will answer in the prosiest prose that all these people suffered from plagues and epidemics, and that the milk they drank was not clean. And, when they get through with you, you will regard the erstwhile impeccable "bossie" as a bovine Herod, repeating in every age and clime the slaughter of the innocents.

All this began with the discovery of bacteria and the investigations into the bacterial origin of disease. Very early it was found that milk was one of the best media obtainable in which to grow cultures of bacteria. Bacteria flourished and grew in it with great enthusiasm and vivacity. Indeed, it was found that only in rare cases was it possible to obtain cows which did not contain bacteria in swarms, and the number ranged from a minimum of ten million to a quart, up to ten billions. Milk which had only ten million was considered low in bacteria. Moreover, it was found that it was bacteria that caused milk to sour; that milk would keep sweet for long periods of time if the bacteria in it were killed by sterilization. Also, that bacteria resembled human beings in some respects, there being good, bad and indifferent varieties; that is, good, bad and indifferent in respect to their action on the human economy. Some of these bacteria, we have learned, come from the body of the cow, and the dust and dirt of the stables; others from the hands of the milker and those handling the milk, or from the pails and pans used as containers. It is the latter sources of infection that are most dangerous, for here come what we have learned to call the "milk borne diseases."

Not very long ago, statistics, more or less incomplete, showed over five hundred epidemics directly due to contaminated milk. Typhoid fever leads numerically in the list of epidemics. Scarlet fever is next and dysentery occupies a prominent place in statistics. These are the diseases conveyed by infected milk. The sickness caused by impure or unclean milk are separate and apart and are no less important.

In nearly all the milk-borne epidemics of infectious diseases, the route of the milkman dispensing infected milk was blazed with plague signs. Following milk wagons to see whether the houses along the route contain more cases than those in other parts of the city has long been a favorite means of running down the cause of an epidemic.

Milk epidemics usually occur suddenly with almost explosive violence. They invariably follow the milkman and their spread is dependent on the amount of contagium in the milk and whether or not the dairy is a large one. The epidemic of typhoid fever in Stamford, Connecticut, in 1895, and 1900 epidemic in Elkton, Md., are among the many outbreaks traced directly to the fluid on which we are weaned.

The sources of milk contamination are many and various. Few ordinary employees take the precaution to wash their hands before milking—to do so is the exception, not the rule. A milker may be in the early stages of typhoid or scarlet fever, or he may have recovered from the disease long before and still harbor the bacilli—a chronic bacillus carrier. Or his hands may have become soiled while acting as a nurse to a case of typhoid, or he may be suffering from a case of pulmonary tuberculosis. So the part played by the milker with unclean hands is not an unimportant one, when we remember that a few bacteria dropped in the milk may become a million within twenty-four hours.

The air and dust of the stable may carry bacteria, or the milk pail may have been wash-

ed by some person suffering from, or in contact with, an infectious disease, or, it may have been washed in infected water from a well or stream. When milk is transported a considerable distance, there is always danger of contamination from individuals drinking from the cans or from the official "testers" in the dairies, who sample the milk to see that it has not soured.

Even the practice of dispensing milk in bottles is not without danger. Milk is much used in sickness and the milk bottle very frequently finds its way into the sick room. Unless all milk bottles are thoroughly sterilized before refilling, there is grave danger in their use.

The Montclair, N. J., epidemic of typhoid in 1902 is an example of milk-bottle infection. During the summer and autumn of 1902 Montclair had few cases of typhoid. On December first, several cases occurred along the route of milk from one particular dairy. The farm producing this milk was immediately investigated, but no evidence to show the source of infection could be found.

All persons coming in contact with the milk were, and had been in good health. Then an interesting fact was unearthed. It was discovered by the health sleuths that cases of typhoid occurred only in those houses which had received milk in pint bottles. Those who received quart bottles and half-pint cream bottles were untouched. Still, no reason could be found for the epidemic.

But cases continued to be reported along this route, and the sale of milk from this particular dairy was stopped. After two weeks there were no more cases.

For awhile the cause of the attack remained a mystery. Finally, it was learned that a man from New York came to Montclair in the beginning of an attack of typhoid and that he remained for a few days at a house supplied with milk from this dairy. The house had been furnished every day with pint bottles of milk. The empty bottles were removed, refilled without sterilization and returned to other houses, full of fine, promising young typhoid bacteria. As a result, eighteen cases occurred in Montclair and ten in Bloomfield, all in homes supplied with pint bottles of milk from this one dairy.

No dairy then should be trusted that does not boil its returned, empty milk bottles. Walk into any sickroom in a crowded tenement and, ten to one, you will see a milk-bottle with more or less milk in it, standing on the window sill. Let the patient be afflicted with scarlet fever, diphtheria or typhoid, and you may be certain that the remaining milk in the bottle will contain many bacteria capable of transmitting the disease, unless they are killed by heat.

Health Department Matters.

In the matter of simple cleanliness of the large cans in which milk is shipped, there is an important issue. Extreme care must be taken to see that the water with which cans are rinsed is clean and uncontaminated. In the country, especially, cans are not infrequently washed in the flowing water of little brooks and streams and set out to drain and dry. This is all very well if there is no sewerage along the course of the creek to pollute the water. But let a single drop of polluted water be left in the can and forth stalks the awful plague. This, in fact, is proven to have actually happened in more than one case. More than one epidemic of fair proportions has occurred through the washing of milk cans in the waters of a "little babbling brook." There is a good deal of poetry connected with the "little babbling brook," but alas, even kisses, say the scientists, are laden with bacteria. Therefore, the bubbles should be boiled out of the brook before its water is used to rinse milk-cans. The board of health has said it.

"But, the health authorities are frightening us needlessly," you will say. "Very rarely do we have milk contaminated with infectious diseases. And the good, rich, lacteal fluid that we were raised on is not so dangerous as you have represented it or we would none of us be alive today." A very good point, but it raises another phase of the milk question.

Human milk and cow's milk are different in their composition and especially in that the latter is not contaminated by shipment or otherwise. Many of us were raised on breast milk. But the rush of modern life has changed things materially.

The very rich woman who fights for her place in society and the very poor woman who struggles for her existence in sweat-shop or factory, both of them turn their infants over to the bottle and the "deadly cow." The re-

sult is, while we are doing wonders in all sorts of fields of endeavor, we see we have not been holding our own in the prevention of infant mortality. The statistics of the U. S. Census office for 1905 show over a half million deaths from all causes, and of these over one hundred and five thousand, among infants in the first year of life, and fifty thousand alone died of intestinal or milk diseases. For the same year in England and Wales, the rate was no less appalling, and the Register General of England said in comment: "It has frequently been pointed out in the reports that although the general mortality in this country has steadily fallen in the course of the last half-century, nevertheless, infants in the first half year of life have not shared in the benefit. About one-fifth of the total loss of life in the first year after birth takes place within a week of that event while, by the end of the first month, the proportion reaches one-third, and by the end of the third month it exceeds one-half. From the first to the fourth month diarrheal diseases steadily increase in destructiveness, after which month they become less fatal, although they still contribute seriously to the death rate throughout the first year of age."

People over ninety years of age and children under six months of age have the same death rate.

One third of all the deaths in Paris from 1892 to 1897 were from digestive diseases of children. In Germany a few years ago, out of all the children, about one-fourth succumbed during the first year of life.

And while about two hundred deaths per thousand occurred during the winter months of the year, five hundred deaths per thousand births was the toll exacted by the summer months of heat and dirty milk—one out of every two children born died in the first year during the summer months!

This seems rather appalling, and it is a formidable question. France and Italy are so concerned about it that women engaged in industrial occupation are not allowed to turn their infants over to the mercy of the cow, and a lessened mortality has followed.

Madam Dluski, in France, says 99 per cent of mothers can nurse. The belief seems to be that American mothers can also nurse, but must choose between that and other things. Plain food, water and exercise are requisites. The effect of all is important.

The peril is very real with us. In the capital of the nation, Washington, the infant death rate in 1900 was 274.5 to every thousand, the year round. This was the same rate as in "darkest Russia" so we cannot boast that we are any better than our neighbors. But the Health Department of Washington, and the U. S. Public Health Service are now studying the milk question very thoroughly.

There is peril then in unclean bacteria—contaminated milk, dirty stables, uncleaned animals, carelessness in handling or cooling the milk—all these are factors in the spread of infantile diseases.

We would not allow our breakfast to be served in an unclean stable by a man with soiled hands, yet that is how the baby's breakfast is prepared, 740,000,000 gallons of cows' milk were consumed in the United States in 1899, according to the 1900 census report. And there were at least an average of 100,000,000 bacteria in every gallon of that milk. Is it any wonder that the babies were sick when we consumed a hundred million times seven hundred and forty millions of bacteria? Although these bacteria are so small in length that it would take 25,000 of them to measure an inch, yet their aggregate, if placed end to end, would make an army reaching from the pole to the equator seven hundred and forty times.

Let us not forget the peril of infantile tuberculosis from the milk of tuberculous cattle, even though tuberculin tests of herds are gradually eliminating that danger. Very recently it was shown by this means that one-third of the cattle supplying milk were tuberculous. Legal steps have abolished still another peril, since keeping milk sweet by the addition of poisonous formaldehyde, has rightly been made a penal offence.

In spite of all good work and legislation the problem is still with us. How is it being met? In many of the large cities milk-depots similar to those inaugurated by Nathan Strauss, in New York, are being established. Here poor people may obtain clean pasteurized milk at a normal cost.

Pasteurization is a process of heating milk to a definite temperature below the boiling point (60 degrees centigrade) for a sufficient time to kill harmful bacteria. Besides this,

the dispensaries for sick babies are teaching mothers the necessity of using human milk for infants. And most important, legal steps are being taken in many communities to insure clean milk; dairies are being inspected and approved or condemned as the case may be. Certified milk, that is milk conforming to tests for a minimum of bacteria and a proper standard of nutritive values, is now obtainable from private concerns, whose sanitary stables and dairies are a revelation to those who kept cows in the good old way that made "cow-pen" a synonym for uncleanliness.

In these establishments the milkers wear white clean suits over their dusty clothes. The stables are clean and the cows are brushed and washed before milking. Sterilized pails are used and each milker scrubs his hands before milking. The milk is placed in sterile bottles rapidly chilled in ice and shipped in this way to the consumer. Milk such as this will keep sweet for days.

And so it is not the cow that is to blame after all. Poor, much abused animal, we owe you an apology; you are only partly responsible for the evil in your name!

We are learning slowly enough that mother's milk is the best food for the baby, but, cow's milk need not be a poison. Do you know where your dairyman buys his milk? Have you ever been to his farm? Perhaps it may be worth your while to know whether the milk you use is reasonably clean by inquiring at the Health Department.

No matter how good or rich your milk may be, if it sours early it is unfit for use. Find a dairy, if you can, that sells certified milk or that will keep pasteurized milk. And then you will not blame the "deadly" cow for all the wickedness that at first sight seems to be attributable to her.

1726 *M Street, Northwest.*

REPORT OF CASES OF CEREBRO-SPINAL SYPHILIS.*

By CHARLES BERNARD PRITCHETT, M. D., Danville, Va.

There is perhaps no other one disease which has received more worth while contributions than has syphilis in the past fifteen years. Beginning with the discovery of the causative agent, scientific knowledge has rapidly progressed until this disease can now be considered thoroughly controlled, not only as to diagnosis and prognosis, but also treatment. Syphilis is the very beginning of differential diagnosis; it plays a constant role in almost every physician's daily practice. It is a common experience today to hear from a tabetic or an old cardiac syphilitic the story of a slight sore, its cauterization by a physician, the taking of a few pills, and then nothing more in the way of treatment or symptoms until the grave, and possibly hopeless, lesions of late syphilis make themselves manifest.

Twenty years ago it was considered good practice to await the development of secondaries, not only for the purpose of establishing a diagnosis on a firm basis, but also to convince the patient of the correctness of this, and thereby insure his co-operation in treatment. This delay simply means waiting until there is a wide invasion of the system, and thus losing the advantage of eradicating the infection while it is yet local. There is no other infection in which one would consider postponing for a single moment the steps necessary to prevent systemic involvement. This insufficient, or neglected treatment of syphilis, has resulted in the return of latent symptoms which come under our observation, too numerous to classify. However, the involvement of the central nervous system is so serious and so frequent that I would, without hesitation, give it first place. The classic syndrome of symptoms, as described by Erb, is so familiar to every one that it is hardly necessary to even be on guard while making a simple physical examination in order to recognize an early case. When additional proof is sought from the laboratory, I think it worthy of mention to lay stress on the fact that a negative blood Wassermann does not necessarily rule out syphilis of the central nervous system. A lumbar puncture should be done and a careful serological and microscopic examination made before one can rule out either general paresis or locomotor ataxia.

Syphilis of the central nervous system is an infectious disease due to the Treponema Pallidum. It was formerly thought that there were two distinct groups of syphilitic disease of the nervous system: The first being characterized by specific or gummatous inflammatory lesions attacking the nervous tis-

*Read at the meeting of the South Piedmont (Va.) Medical Society, in Danville, April 20, 1920.

sue and its coverings, by way of the blood vessels. The second group was spoken of as para-syphilitic disease, characterized by degeneration of nerve tissue. At the present time both groups are recognized as active syphilis, due to the same infectious agent. Although the underlying cause is the same in all forms of lues of the nervous system, there are two groups recognized as distinct clinical affections. In group one, the infection attacks by way of the vessels and membranes, that is, it is an interstitial form; while in the second group the nerve tissue itself is attacked. This parenchymatous form includes paresis and tabes dorsalis. Noguchi's discovery of the spirochete in the tissue of the central nervous system has placed paresis and tabes in the group of true infections; and other studies of the spinal fluid have brought out the fact that the foundation of these lesions of the central system is laid in the early stages of the disease, probably at the time of the first great generalization of the spirochete: more than one-half of the cases of syphilis show evidence of disturbance of the spinal fluid at this early period.

In tabes and paresis, or parenchymatous nervous syphilis, the orthodox anti-luetic treatment does little good. For some reason not explained, drugs which act on syphilis of the exudative form do not produce any such results when the spirochete has invaded the nerve tissue itself. It has been found that with either mercury or salvarsan circulating in the blood, practically none can be found in the cerebro-spinal fluid.

There are various methods in vogue which attempt at a more or less successful medication directly by way of the sub-arachnoid space. Swift and Ellis devised one of the most useful. By this method the patient is first given an intravenous injection of salvarsan or neo-salvarsan. After an interval of twenty minutes to one hour blood is drawn from a vein. The serum from this, after standing over night, is thoroughly centrifuged, and inactivated at a temperature of 56° C. Ten to 20 mils, diluted with equal parts, or double amount of salt solution, is then injected intraspinously. This is usually given 24 hours after intravenous injection. The advantage of this technique lies in its simplicity over the other methods which require operative procedure, such as administrative serum intracranially. The disadvantage lies in the handling of the serum, which entails danger of contamination.

The results in all forms of treatment of cerebro-spinal lues are discouraging—the best that any one can hope for, in most cases, is to arrest the progress of symptoms. In our work we have had only four such cases within the past year, and as they all seem benefited by a much simpler procedure, one that may be carried out easily and safely in the hands of the average practitioner, I am glad of this opportunity to bring this method to your attention. I do not know who originated it. It is simply a modification of the Swift-Ellis. Acting upon the theory that the spinal fluid, when diminished below normal, is rapidly regenerated from the blood stream, the method is simply to follow the intravenous administration of "606" by lumbar puncture, removing from 10 to 30 c.c. of fluid, according to the amount of intra-spinal pressure. This is repeated every five days until five doses are thus given. After an interval of a few months, during which mercury and iodides are administered, the course is repeated. This should be kept up indefinitely, regardless of the Wassermann reaction. Too much stress cannot be laid on the fact that mercury must not be omitted in any form of nervous syphilis. When early diagnosis is made, that is, before serious destruction of nerve tissue has taken place, one may even look for improvement. Other cases are more refractory and one does well to bring the disease to a standstill. Even in these, however, lightning pains, nocturnal headaches and distressing bladder symptoms are very likely to disappear. I do not believe that reflexes can be restored or an ataxic gait cured by any form of medication.

The four cases which I present are each entirely different, and I trust will bring forth an interesting discussion for our mutual benefit.

Case 1. Age 35, male, white, married; occupation, decorator.

Complaint: Weakness in right hand and arm; headache, retention; loss of memory, difficulty of enunciation and nervousness.

Family History: Negative.

Past History: Unimportant until one year

ago (unable to get history of primary lesion on account of aphasia.)

Physical Examination: Reflexes exaggerated. Pupils equal and react to L. and A. Blood Wassermann, triple plus.

Present Illness: Began one year ago with peripheral neuritis and increased irritability. Nervousness, headache, loss of memory, difficulty in speech. Symptoms grew progressively worse until he became incapacitated in early December. Was admitted to the Danville General Hospital. Patient was emotional, had no control over himself, apprehensive and delirious at intervals. He also had delusions and hallucinations. At this time incontinence began which lasted several weeks. He remained in the hospital six weeks, during which time he improved under iodides and mercury except his aphasia. Was discharged in six weeks and came to the office at seven day intervals where he received six doses of 6-10 gram "606", followed by 10 injections of salicylate of mercury.

Result: Greatly improved and able to attend part of former duty.

Diagnosis: Gumma of meninges, or exudative syphilis.

Case 2. Age 38, male, white, single; occupation, clerk.

Complaint: Slight difficulty in walking. Headaches, loss of libido, loss of memory, confusion of words and thought. Gastric distress, associated with sharp darting pains.

Family History: Negative.

Past History: Typhoid 1906, chancre 1906, with secondaries. (Two years' treatment iodides and mercury. 1914 one dose of "606.")

Present Illness: Began one year ago, with difficulty in getting around in the dark, indigestion, nervousness and malaise.

Physical Examination: A. R. Pupil. Deep reflexes absent, slight ataxic gait, positive Romberg. *G. A.* Hyperacidity and hypersecretion. Spinal fluid Wassermann, triple plus; blood Wassermann, triple plus.

Admitted to Edmunds Hospital Jan., 1920, five doses of "606" with lumbar punctures. Discharged greatly improved and instructed to report again in two months. He was given proto-iodide of mercury to take during his absence, and put under the observation of his family physician. Returned April 12th, mental confusion cleared up, no signs of ataxia. A. R. pupil still present. Romberg positive, deep reflexes absent. Gastric distress entirely relieved; no headaches; libido increased.

Diagnosis: Early locomotor ataxia, or parenchymatous syphilis.

Case 3: Age 56, male, white, single; tobacconist.

Complaint: Marked difficulty in walking, severe shooting pains in limbs and body. Needle and pin sensation in soles of the feet, difficulty in voiding. Weakness. Loss of tactile sense in both hands. Gastric distress, impaired vision, failing memory.

Family History: Negative.

Past History: Negative, except chancre in 1910, with secondaries. Potassium iodide and mercury given for several years; later had several intravenous salvarsans at long intervals.

Present Illness: Began three years ago. Progressively worse.

Physical Examination: A. R. Pupil, deep reflexes absent, positive Romberg, ataxic gait, gastric analysis normal, blood Wassermann, negative. Spinal fluid, positive.

First course of lumbar puncture with "606", one year ago. Five doses. Result improved. Discharged, told to report in two months and keep up treatment. Returned nearly a year later, after a strenuous season on tobacco market. Condition practically the same as before taking treatment. Admitted to Danville General Hospital in February. Second course given which resulted in disappearance of symptoms except so far as ataxia, which is unimproved.

Diagnosis: Locomotor Ataxia.

Case 4. Age 65, male, white, married; fireman.

Complaint: Difficulty in walking, mental confusion, headaches. Impaired vision, difficulty in voiding, weakness on slight exertion.

Family History: Negative.

Past History: Chancre, 25 years ago; local treatment, no secondaries.

Present Illness: Began 12 months ago. Course of 6 doses of lumbar puncture with "606" given in January and February, followed by 8 injections salicylate of mercury.

Physical Examination: A. R. Pupil, unequal Pupils. Positive Romberg, K. K. absent. Blood Wassermann, positive; spinal fluid, positive.

Diagnosis: Locomotor ataxia.
Result: Marked improvement.

This modified technique seems to produce as much benefit as does the Swift-Ellis treatment. It is simple, free from danger, and so far we have had no untoward reactions. It is interesting to note that none of these patients with positive spinal fluids showed any discomfort from the lumbar puncture; on the other hand there seems to be an immediate feeling of improvement. This was noticed in Case 4, whose interspinal pressure was rather low. (Had to have patient in sitting position in order to obtain a flow of the fluid.) The only reaction I have noted was in a suspected case, who had a positive blood and a negative spinal fluid. He suffered intense headaches for several weeks after the tapping. The treatment was discontinued as the laboratory report of the spinal fluid was entirely negative.

CRIMINALITY AND MENTAL UNSOUNDNESS.*

By JAS. K. HALL, M. D., Westbrook Sanatorium, Richmond, Va.

An occasional request to examine a prisoner and to offer in court a medical opinion about his mental condition has tended to deepen my interest in the possible relationship between crime and mental unsoundness. Although unwilling to assume that criminality is always an expression of mental abnormality, yet I doubt not that the criminal is often such for the reason that he has not sufficient judgment to be otherwise.

It is no longer easy even for an intelligent man to be law-abiding. We live in a meshwork of laws. I doubt not that I violate some law every day that I live. Much of our daily activity is under the influence of controlling forces that radiate from the seat of Federal authority. The Great Father in Washington takes a paternal glance at what we eat; he observes what manner of raiment we wear; he has withdrawn the bowl from our thirsting lips, and now he estimates character by every word that proceeds out of the mouths of his children. A sound mind is necessary for an understanding of the reasons for all this governmental repression. A firm will is necessary to make submission to it possible. The mentally unsound cannot understand it nor can they always subject themselves to it.

It would be interesting to ascertain as the result of a psychiatric examination what percentage of the entire population would show some deviation from the mental normal. It is not difficult to imagine that at least two or three per cent of the whole population would exhibit at least some degree of deviation. In this group of individuals showing mental unsoundness are to be found beyond a doubt the majority of so-called criminals.

Some of you will remember having read in MENTAL HYGIENE, for January 1918, the report of Doctor Bernard Glueck. In this article, Doctor Glueck, who was psychiatrist to Sing Sing prison, gave the result of his examination of 608 prisoners who were admitted consecutively in a nine-months' period to this prison. He found that in this group of men, 59 per cent exhibited perceptible deviation from the mental normal. Of this number 12 per cent. showed mental disease or mental deterioration; 28 per cent were mentally defective; and 19 per cent were the so-called psychopaths.

It may be surprising to some of you to know that Sing Sing prison is filled with little children—yet Doctor Glueck says that of these 608 admissions in only nine months, 171 were mentally infantile. No one of these had the mental equipment of a child of even twelve years. Some of them indeed were mentally scarcely five years of age. Thirty-six prisoners were suffering from dementia praecox; three were paranoiacs; fifteen were alcoholic and drug addicts; and thirteen were mentally disordered as the result of chronic syphilis of the central nervous system.

It is revolting to think that mental children are daily being subjected to the hardening influences of prison life, yet Doctor Glueck states that he saw 171 little children sent from the courts of justice into Sing Sing. It seems scarcely less cruel to think that insane men are sent by the courts of justice to a penitentiary to do penance for crimes for whose commission they could not be held mentally or morally responsible, yet Doctor Glueck says that in nine months he saw 188 insane men admitted to this prison.

Those of us who live amongst mental pa-

*Read before the meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Charlotte, February 18-19, 1920.

tients and give thought to problems of mental abnormality know how often attention is first called to the possibility of mental disorder in some individual by some overt act, some so-called crime, big or little, or some other violation of social custom. Insanity as applied to the mind is too general to imply more than unsoundness. It is a legal rather than a medical conception and we should encourage the cessation of its usage. If possible, a definite, clear-cut diagnosis of the mental disorder should be made, as definite, for instance, as lobar pneumonia or acute appendicitis.

But, regardless of the type of disorder exhibited by the abnormal mind, we cannot go far wrong in conceding that so-called insanity manifests itself sooner or later as disorder of behavior. The insane individual behaves unlike those around him. His conduct deviates from the standard of the community—as well as from his own normal standard. Ideation expresses itself in behavior, in conduct, in doing, or in failure to do. One of the functions of the body is to portray to the world states of feeling and of intellect. If this behavior be abnormal we may rather safely assume that the mind out of which all conduct springs is likewise unsound. And yet, if this behavior be of a certain type, a court of justice solemnly pronounces the doing a crime, and the doer pays for his doings with his money, his labor, or his life.

Bad laws may be violated by good men; if so, we extol them. From the technical legal point of view, some of the great figures of history were criminals, Moses, Socrates, David, Julius Caesar, Cicero, Cromwell, George Washington, Jefferson Davis, Lee and Jackson. Violation of the great common law should imply either criminality or mental unsoundness. Legal procedure properly takes into grave consideration the impelling motive, the driving force back of the criminal act. Under proper circumstances, the killing of a national enemy is a manifestation of high patriotism. Under circumstances other than self-defense, the killing of one's fellowman constitutes murder—the greatest of all crimes. Yet the deluded individual may be impelled in killing by a motive of which he is not ashamed and a motive which justifies in his own mind the slaying of his fellow. The legal inquiry reaches back to but no farther than the motive. The so-called insane individual may understand clearly the nature of the act, and comprehend its consequence rather fully, but he cannot understand that he is deluded. As soon as a delusion is understood by the individual who entertains it, at once it ceases to be a delusion. It is the function of the medical man to determine whether the dominating idea back of the crime is delusional or rational. A crime is not an act, but it is an act plus a particular state of mind.

Criminality may be an early manifestation of dementia praecox, especially of the paranoid type, in which murder may be committed; even incipient mania may be the underlying cause of inexplicable disorder of conduct; the genuine paranoiac is practically always potentially a criminal; and the despondent, suspicious, apprehensive person not infrequently commits an assault on himself or on another. Sexual assaults are undoubtedly often the result of mental disorder. Organic disease of the central nervous system frequently brings about mental aberration during which anti-social behavior of any kind may be only a symptom. I think in this connection especially of brain tumor, meningitis, injury to the skull, cerebral concussion, chronic hydrocephalus and head and brain injuries during labor. Epilepsy may produce a mental storm without the usual accompanying physical disturbances. I feel that a certain number of crimes are committed by psychic epileptics. It must be true that occasionally the pre-epileptic state and the post-epileptic state are filled with acts of which the epileptic is not conscious and for which he is not responsible. Many, many times, syphilitic processes in the central nervous system, acute or chronic, exhibit themselves first in violent conduct. Even the incipient paretic is liable at any moment to commit a criminal act. A latent organic or a constitutional disease may suddenly bring about mental disorder of profound degree. You will immediately think of nephritis, which may cause either coma or wild delirium. Circulatory disorder, originating in cardiac disturbance, or in pathologic changes in the vessel walls, is not infrequently attended by grave mental symptoms. Only a few days ago a man suffering from pernicious anaemia was brought to us in wild delirium, which had

developed with the most unexpected suddenness. Certain intoxicating substances taken occasionally or habitually are often responsible for temporary or more permanent abnormal mental states. Amongst these intoxicants we think oftenest of alcohol and opium. We must ever remember the feeble-minded—those unfortunate individuals whose physical growth generally keeps far ahead of their mental development. Defective judgment or lack of inhibition often leads them into crime.

Every individual brought to the bar of justice is supposed in the eyes of the law to be innocent of wrong-doing until his guilt has been clearly established. The individual is supposed also to be physically and mentally sound. Society, so jealous of human liberty, provides, through appointment by the court, even a pauper with counsel and other means of defense, but it generally makes no effort to ascertain whether or not the individual is either physically or mentally sound. The slightest intimation from the defense that the so-called criminal act may have been the result of mental disorder almost always calls forth from representatives of the state the rejoinder that the plea of insanity is the plea of necessity or else the plea of desperation. I contend that each and every individual, before being deprived of liberty or life, should have the benefit of a careful and comprehensive physical and mental examination. Such an examination should be made by a medical commission, which should be a part of the regular judicial machinery of each State. And then, before the trial is entered upon, the judge and counsel on each side should have in writing the report of this medical examining commission.

Clinical Reports

MATERNAL IMPRESSIONS.

By F. J. MORRISON, M. D., Suffolk, Va.

In spite of the fact that maternal impression is not generally accepted, we do, now and then, have unfolded to us a supposed cause, elaborated by the patient and firmly believed in: so firmly that no amount of argument will convince the patient that her belief is unfounded and not borne out by scientific investigation. How many of us have seen this effect in the deformed child attributed by the mother to impressions received while pregnant, and it did look as though there might be some foundation for the belief! I am not ready to accept the belief myself but will relate the case seen in consultation with Dr. O. R. Yates, of this city.

Mrs. G., age 37. Healthy, and the mother of five normal and healthy children with no history of harelip in the family, consulted her dentist in the early weeks of pregnancy before her condition was known to herself. Two teeth were extracted from the upper gum. In a short time she became aware of her pregnancy and was told by several of her neighbors that she would surely give birth to a baby with a harelip. She became obsessed with the idea and talked it over with her physician time and time again. Nothing could induce her to believe otherwise and, as time went on, the more convinced she became that the prophecy would be fulfilled.

On March 18, 1920, labor began and in a few hours she was delivered without any trouble. The first question was, did the baby have a harelip, and upon examination, lo and behold the baby was so deformed, but in every other respect normal. The following day, with the assistance of Dr. Yates we repaired the harelip which was a simple harelip with no cleft palate.

Most writers call the belief a superstition, harmful and absurd, but what argument could be brought to bear to convince this mother and her friends that maternal impressions are a myth! I dare say there is none, nor did we try.

Public Health Department

In The Tuberculosis Field.

THE NATIONAL ASSOCIATION.

Tuberculous infection is practically universal. There is, from this well-nigh universal infection, an increased morbidity, but a decreased mortality in the United States. Therefore, encouraging results, in the light of the present-day knowledge, may be expected from efforts to raise the resistance to tuberculosis.

These were points emphasized at the Sixteenth Annual Meeting of the National Tuberculosis Association, held in St. Louis, April 22, 23 and 24. Six Virginia tuberculosis work-

ers attended the national meeting, and two of the Virginians were represented on the program. In many respects it was one of the most interesting meetings held in the fifteen years the association has been in existence.

Dr. Victor C. Vaughan discussed "The Present Status and Future Prospects of the Tuberculosis Campaign," of which the following is an abstract:

It seems to be thoroughly established that practically no child is born into the world with tuberculous infection. Tens of thousands of autopsies and many more applications of the tuberculin test have demonstrated the fact that congenital tuberculosis is exceedingly rare. Besides this, the weight of opinion at present is that there is no inheritance nor even a predisposition toward this disease.

While during the fifty or more years preceding the World War the death-rate from tuberculosis was constantly decreasing, the percentage of tuberculous infection has been increasing. In other words, we have a lessened mortality from this disease and a greater morbidity. The causes of this increase in tuberculous infection should give us great concern. It has been shown that the greatest increase in tuberculous infection has developed in cities, and especially in those cities where the homes are overcrowded. While tuberculous infection has greatly multiplied in cities, and while much of our rural population is still badly housed, the rate in the increase of tuberculous infection has been most marked in the cities. Quite one-half of our population is today living in cells. Some of these cells are crude and unfit for human habitation, while others are gilded and supplied with richest ornate furniture; but all are cells.

Housing is the greatest problem, as I look at it, in the tuberculosis campaign and the greatest factor in the increase of tuberculous infection. There must be something that will turn the current and drive our people from the cities to the country. The time is coming and coming quickly, when the scarcity of food and clothing will drive the people from the cities to the country. This will right itself in time; but how great the cost to the nation I am not able to estimate.

In our cities, nearly 100 per cent. of the adult inhabitants are already infected with tuberculosis. It is a serious question how nearly normal any individual or mass of individuals can be when all are infected with the bacillus tuberculosis. I am inclined to the opinion that the well-nigh universal infection with tuberculosis now existing among us is already telling upon our national character. If universal infection with malaria had anything to do with the decline of Greek and Roman civilization, what may universal infection with tuberculosis do for us? It may be that some twenty centuries in the future some learned professor will write a monograph entitled, "Tuberculosis as a Factor in the Decline of the Civilization of the Twentieth Century."

We are very properly establishing tuberculosis sanatoria, hospitals, and colonies for the care of those afflicted with this disease. We must continue to do this, but we must realize that we shall never eradicate the disease by these measures. In order to eliminate this disease and its evil consequences, whether they be manifest in increased death-rate or in increased morbidity, there must be radical changes in our methods of living.

Unskilled labor is now demanding six working hours a day and five days a week, and we sneer at him for making such a request. If every adult worked four hours a day in some productive capacity, there would be no scarcity in any of the necessities of life. It is estimated that, even with crude agricultural implements, the average number of hours per year necessary to get the greatest production from an acre of land amounts to only 220. There is much justice in the demand of the unskilled laborer, but the trouble is he at the present would not wisely spend the remaining eighteen. A large number of unskilled workmen break down at present from tuberculosis, but their misfortune is not due to the hard labor, but to the manner and place in which they spend their non-working hours.

Man will ultimately eradicate this disease, just as we have placed malaria, yellow fever, typhoid fever, the bubonic plague, and other diseases under our authority, but before he can accomplish this great task, there must be a radical change in the manner of living. In the meantime, it is our duty as physicians and health workers to educate the people, especially the children, to build sanatoria, hospitals, and colonies, but we must recognize at

all times that these are only mile-stones on the road of human progress, and that they must be passed and left far behind before man reaches that degree of intellectuality which is essential to proper living.

B. L. Tagliaferro.

Proceedings of Societies

The Bedford County (Va.) Medical Society

Held its regular monthly meeting in Bedford, May 24, with a very good attendance. Every white physician in the county is a member. Several cases were discussed, and last, on account of the high cost of living, the advisability of increasing fees was discussed, and it was decided to have a call meeting on the 27th of May to agree on a fair increase for medical services.

The following officers were elected: President, Dr. J. A. Rucker, Bedford; vice-president, Dr. M. W. Gibbs, Bellevue; secretary-treasurer, Dr. W. O. McCabe, Thaxton. Dr. Alfred B. Claytor, of Philadelphia, who has recently located in Bedford, was admitted to membership.

W. O. McCabe, *Secretary.*

The Alexandria County (Va.) Medical Society,

At its last regular meeeting held May 26, changed its name to Arlington County Medical Society, the name of Alexandria County having been changed, by act of Legislature, to Arlington County, to take effect June 15, 1920. The present officers of this Society are Dr. Edward McCarthy, Cherrydale, president, and Dr. B. H. Swain, Ballston, secretary-treasurer.

The society holds meetings on the last Wednesday evenings, bi-monthly, at the residence of a designated member. Excellent programs are given. The fraternal spirit is fully evident and good fellowship cultivated. Annual dues are 50 cents.

B. H. Swain,
Sec.-Treas.

Roanoke Academy of Medicine.

At the regular meeting of the Academy on May 3, Dr. Ben Witt Key, of New York City, read a paper on "Related Ocular and General Conditions." The discussion was opened by Dr. Emory Hill, of Richmond, Va. Dr. James J. King, also of New York City, read a paper on "Systemic Conditions Resulting from Focal Infection of the Head." Discussion on this paper was opened by Dr. Thomas E. Hughes, of Richmond. The attendance at this meeting was the best we have ever had, a number of doctors from Southwest Virginia being present.

E. G. Gill, *Secretary.*

The Truth About Medicine

During April the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Abbott Laboratories:
- Anesthesin-Abbott.
- Aromatic Chlorazene Powder.
- Tablets Dichloramine-T-Abbott.

Diaprotein Company:
- Diaprotein Prepared Casein Flour.

Gilliland Laboratories:
- Streptococcus Vaccine (Gilliland).

Heyden Chemical Works:
- Acetylsalicylic Acid—Heyden.

Hollister-Wilson Laboratories:
- Capsules Corpora Lutea Desiccated—Hollister-Wilson.
- Tablets Corpus Luteum Desiccated—Hollister-Wilson.
- Pituitol Obstetrical.
- Pituitol Surgical.

Lederle Antitoxin Laboratories:
- Pollen Antigen—Lederle (Spring Type).

Lowy Laboratory, Inc.:
- Solution Arsphenamine—Lowy.

Radio Chemical Corporation:
- Radium Bromide (Radio Chemical Corp.).
- Radium Carbonate (Radio Chemical Corp.).
- Radium Chloride (Radio Chemical Corp.).
- Radium Sulphate (Radio Chemical Corp.).

E. R. Squibb & Sons:
- Bacillus Bulgaricus—Squibb.

NEW AND NONOFFICIAL REMEDIES.

Bacillus Bulgaricus—Squibb.—A culture in vials of the **Bacillus bulgaricus** type A, the **Bacillus bulgaricus** type B **(Bacillus acidophilus)** and the **Bacillus paralacticus,** each vial containing 12 Cc. The preparation is designed for internal administration and for topical application (see general article, Lactic Acid-Producing Organisms and Preparations, New and Non-official Remedies, 1920, p. 156). E. R. Squibb & Sons, New York.

Pollen Antigen—Lederle (Spring Type).—A liquid obtained by extracting equal parts by weight of dried pollens of timothy, red top, June grass, orchard grass, sweet vernal grass, meadow foxtail, meadow fescue, rye and wheat by a vehicle of 67 per cent. glycerine and 33 per cent. saturated solution of sodium chloride. Each Cc. contains 14,000 pollen units (a pollen unit is the equivalent of 0.001 Mg. of pollen). For a discussion of the actions, uses and dosage, see Pollen Extract Preparations, New and Non-official Remedies, 1920, p. 236. The product is supplied in 15 different doses, each dose consisting of 0.1 Cc. of the respective dilution. Each dose is accompanied by a vial con-

taining 9 Cc. of sterile water for diluting the dose to make it of isotonic strength. Pollen Antigen—Lederle (Spring Type) is supplied in packages containing a complete set of 15 doses, in packages containing sets of 5 doses and as a diagnostic test consisting of 0.01 Cc. of No. 15 dilution. Lederle Antitoxin Laboratories, New York (Jour. A. M. A., April 24, 1920, p. 1167).

PROPAGANDA FOR REFORM.

Some Misbranded Nostrums.—The following "patent" medicines have been the subject of prosecution by the Federal authorities: Mendenhall's No. 40 for the Blood, consisting essentially of potassium iodid, cathartic resins, ammonium acetate, licorice, glycerin, sugar, alcohol and water; Zaegel's Essence, consisting essentially of alcohol, water, sugar and plant extractives, including a laxative substance and a saponin; Zaegel's Lung Balsam, consisting essentially of alcohol, water, sugar and laxative plant material flavored with oil of peppermint; McGraw's Liquid Herbs of Youth, containing essentially Epsom salt, senna, red pepper, quassia, alcohol and water with wintergreen flavor; Jarabe de Abrozoin, composed essentially of terpin hydrate, menthol, benzoic acid, ammonium chlorid, sodium bromid, glycerin, alcohol, sugar and water; Kampfmueller's Rheumatic Remedy, consisting essentially of potassium iodid, plant extractives, alcohol and water; Sal-Sano, containing essentially sodium chlorid, sodium phosphate, sodium bicarbonate and sodium sulphate; Indian Wyanole, consisting essentially of chloroform, ammonia, menthol, glycerin, turpentine-like oils, alcohol and water; Gregory's Antiseptic Oil, consisting of kerosene oil with oil of cloves, cassia, and sassafras with a trace of camphor and pepper resins. (Jour. A. M. A., April 17, 1920, p. 1114).

Look Up Its Rating.—The Council on Pharmacy and Chemistry was created because the complexity of modern medicine makes it a physical impossibility for physicians to know the scientific status of the many proprietary remedies which are on the market. As commercial agencies, such as Bradstreet and Dun, report on the commercial probity of individuals and firms, so the Council on Pharmacy and Chemistry reports on what might be called the scientific probity of proprietary and unofficial pharmaceutical products. The commercial agency issues, at no small expense to its customers, rating books; the Council on Pharmacy and Chemistry issues, at a nominal price, "New and Nonofficial Remedies." The commercial agency, for a substantial fee, will furnish reports on business concerns; the Council on Pharmacy and Chemistry, will, without any expense to the profession, furnish reports on proprietary products used for the relief or cure of human ailments. (Jour. A. M. A., April 24, 1920, p. 1171).

Adulterated or Misbranded Mineral Water.—Harris Spring Water, examined by the U. S. Bureau of Chemistry, was found to contain **B. coli** in small quantities, molds and liquefying organisms. Sprudel Concentrated Spring Water was found to contain bacilli of the colon group and also added salts not obtained from the West Baden Springs. American Apollinaris Mineral Water was found not to be Apollinaris Water. Robinson Spring Water was falsely claimed to be effective as a remedy for Bright's disease, diabetes, dropsy, cystitis, gout, rheumatism, indigestion, and kidney and bladder troubles. Ferro-Manganese Regent Water was falsely represented as a remedy for alcolholism, chronic rheumatism, dyspepsia, diabetes, Bright's disease, albuminuria, dropsy, sciatica and insomnia, and was not a natural spring water. (Jour. A. M. A., April 24, 1920, p. 1182).

Alkalithia.—Keasbey and Mattison Company's Effervescent Alkalithia was introduced at a time when it was believed that the administration of lithium salts served to remove uric acid from the system. The A. M. A. Chemical Laboratory reported that Alkalithia is an effervescent mixture which contains alkaline carbonates and bicarbonates together with caffein, free tartaric acid and free citric acid and that, as taken, it represents caffein in solution of alkali tartrate, citrate and bicarbonate containing free carbonic acid. The Council on Pharmacy and Chemistry declared Alkalithia inadmissible to New and Non-official Remedies because the claims made on the label and in the circular accompanying the trade package led the public, to its detriment, to depend on this preparation and because the therapeutic claims are unwarranted. (Reports Council Pharm. & Chem., 1919, p. 65).

Arhovin Omitted from N. N. R.—Arhovin is a solution of diphenylamin, thymol benzoate and ethyl benzoate marketed by Schering and Glatz, Inc. The Council on Pharmacy and Chemistry reports that it was omitted from New and Non-official Remedies because the therapeutic claims made for the preparation were unwarranted. (Reports Council Pharm. & Chem., 1919, p. 66).

Chloron, Chlorax and Number "3."—The Council on Pharmacy and Chemistry has examined Chloron, Chlorax and Number "3," manufactured by the Chlorine Products Company, Inc., New York. The products have been declared inadmissible to New and Non-official Remedies. The report of the Council—which in accordance with the usual procedure was submitted to the Chlorine Products Company before its publication was authorized—sums up the Council's findings thus: (1) All are of unreliable composition. (2) The therapeutic claims made for the preparations are not substantiated by evidence and are unwarranted and misleading. Chloron is inferior as an antiseptic to the well-known surgical solution of chlorinated soda because of its low chlorin content and uncontrolled reaction. There is no warrant for the claim that Chlorax is useful in the treatment of "Kidney Conditions," "Diabetes," "Acute Infections," "Blood Dicrasias," "Lithemias and Rheumatism," and "Nervous Conditions," nor is there warrant for the claim that "Number '3'" is a "blood purifier" or a "syphilis remedy." (3) The names of these pharmaceutical mixtures are not descriptive of their composition. (4) All three preparations are irrational. No evidence has been furnished that the lithium salt is of value in the mixtures. It is not rational to combine an active chlorin preparation and a mercury salt in one mixture, nor is there evidence that the addition of opium to the preparations proposed for internal use is of value or rational. Experimentation with Number "3" as a "syphilis remedy" is to be severely condemned in that those on whom it is used will, in the meantime, be deprived of efficient medication. (Reports Council Pharm. & Chem., 1919, p. 70).

Elarsen Omitted from N. N. R.—Elarsen, now sold by the Winthrop Chemical Co., Inc., was formerly sold in the United States by the Bayer Co., Inc. It was admitted to New and Non-official Remedies in 1914. The Council on Pharmacy and Chemistry now reports that Elarsen has been omitted from New and Non-official Remedies because it is sold

under unproved and, consequently, unwarranted claims and because, in the light of investigation, it is an unscientific and relatively useless article. The Council also reports that Elarsen has not been shown to have advantages over Fowler's solution but that, in some respects at least, it is inferior. (Reports Council Pharm. & Chem., 1919, p. 75).

Formicin Omitted from N. N. R.—Formicin, manufactured by Kalle and Co., A. G. Biebrich a/Rh, Germany (Kalle Color and Chemical Co., New York, U. S. agents) was admitted to New and Non-official Remedies in 1912. The Council on Pharmacy and Chemistry reports that while the claims recently made for Formicin were essentially those made when the product was first accepted, these claims were questioned because further experience had not established the usefulness of the product. As the Kalle Color and Chemical Co. presented no evidence to establish its therapeutic efficiency, the Council directed the omission of Formicin from N. N. R. (Reports Council Pharm. & Chem., 1919, p. 76).

Choice of a Medical School

Essentials of an Acceptable Medical College.

(Continued from May Issue.)

SUPERVISION, EQUIPMENT, TEACHERS.

6. There should be careful and intelligent supervision of the entire school by the dean or other executive officer who holds, and has sufficient authority to carry out fair ideals of medical education as determined by the present-day knowledge of medicine.

7. There should be a good system of records showing conveniently and in detail the credentials, attendance, grades and accounts of the students, by means of which an exact knowledge can be obtained regarding each student's work. Records should also be kept showing readily the attendance of patients at the teaching hospitals and dispensaries; the maternity cases attended by students, and the postmortem cases used in teaching.

8. The college curriculum should be fully graded and should cover four sessions of at least thirty-two weeks each, exclusive of time required for matriculation and holidays, and at least thirty hours per week of actual work. The courses offered in the various subjects should be set forth by departments (anatomy, physiology, etc.) in the annual announcement, showing for each course its number, subject content, character (lecture, recitation, laboratory or clinic), length of time, when, where, and by whom given, and the amount of credit allowed. The courses for each class should also be clearly set forth in a printed class schedule, for the guidance of the students.

(*a*) The college should give two years of work consisting largely of laboratory work in well equipped laboratories of anatomy, histology, embryology, physiology, pysiologic chemistry, bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis. Present-day medical knowledge makes it essential that these subjects be in charge of full-time, well-trained teachers.

(*b*) Two years of clinical work, largely in hospitals and dispensaries, with courses in medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence. With the higher entrance requirements, time is now available in the latter part of the second year for beginning courses in physical diagnosis and the principles of surgery.

(*c*) As soon as conditions warrant, relations should be etablished with a number of approved hospitals so that a fifth undergraduate year may be required to be spent by the student as an intern under the continued supervision of the medical school.

FACULTY.

9. (*a*) The college should provide at least *eight expert thoroughly trained professors in the laboratory branches*, salaried so that they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects.[8] For colleges having *sixty students or less* in each class there should be at least one full-time salaried assistant each in the departments of (1) anatomy, (2) physiology, (3) pathology and bacteriology, and (4) physiologic chemistry and pharmacology. There should be also one additional assistant provided in each of these departments for *each additional thirty students enrolled*. This represents a low average

8. These professors should have a definite responsibility in the conduct of the college, and their first and chief interest should be the training of medical students. It is suggested that four of these professors be placed at the head of the departments of (a) anatomy, (b) physiology and physiologic chemistry, (c) pathology and bacteriology, and (d) pharmacology and therapeutics. The other four may be assigned, one each, to (e) histology and embryology, under the department of anatomy, and to the departmnt of (f) pathology and bacteriology, and (g) physiology and pharmacology, and to the departments of (h) either internal medicine or surgery.

of the full-time assistants already employed by the acceptable medical colleges.

(*b*) The faculty should be made up of graduates of institutions recognized as medical colleges and who have had a training in all departments of medicine. Nonmedical men should be selected as teachers in medical schools only under exceptional circumstances and only when medical men of equal special capacity are not available. The faculty should be organized, each department having its head professor, its associate professor, assistant professor, instructor, etc., each having his particular subjects for the teaching of which he is responsible to the head of the department.

CLINICAL FACILITIES AND INSTRUCTION.

10. (*a*) The college should own or entirely control a hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. This hospital should be in close proximity to the college and have a daily average (for senior classes of 100 students *or less*) of not less than 200 patients who can be utilized for clinical teaching, these patints to be of such character as to permit the students to see and study the common variety of surgical and medical cases as well as a fair number in each of the so-called specialties. In the use of this material *bedside and ward clinics* should be developed for sections of from five to ten students, and for the seniors, a certain number of patients in medicine, surgery and the specialties should be assigned to each student under a well supervised clinical clerk system. The treatment and care of these patients should be particularly observed and recorded by the student under the strict supervision of the intern, or the attending staff of the hospital.

(*b*) The college should also have ample hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

(*c*) The college should own or control a dispensary, or out-patient department, the attendance to be a daily average of 100 patients (visits) (for senior classes of 100 students *or less*), the patients to be carefully classified, good histories and records of the patients to be kept and the material to be well used. The attending staff should be made up of good teachers, should be well organized and be prompt and regular in attendance.

(*d*) At least six maternity cases should be provided for each senior student, who should have actual charge of these cases under the supervision of the attending physician. Careful records of each case should be handed in by the student.

(*e*) Facilities should be provided for at least thirty necropsies (for senior classes of 100 students *or less*) during each college session which are attended and participated in by senior students. These, as a rule, should be in the teaching hospital controlled by the medical school and performed by the professor of pathology. The so-called clinical-pathological conferences should be more widely developed in connection with the postmortems.

OTHER TEACHING FACILITIES AND FINANCES.

11. The college should have a working medical library, to include the more modern text and reference books with the *Index Medicus*, the Surgeon-General's Index and other serviceable indexes. The library should receive regularly thirty or more leading medical periodicals, the current numbers of which should be in racks or on tables easily accessible to the students. At the end of each year these periodicals should be bound and added to the files of bound periodicals. The library room should be properly lighted and heated, and open during all or the greater part of the day; it should be equipped with suitable card indexes as well as with tables and chairs, and have a competent librarian in charge.

12. There should be a working medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes. It is suggested that so far as possible with each pathologic specimen coming from postmortems there also be kept the record of the postmortem, the clinical history of the patient on whom the necropsy was held and microscopic slides showing the minute structures of the disease shown in the gross specimen. The museum furnishes an excellent means of correlating the work of the department of pathology with that of the clinical departments.

13. There should be sufficient dissecting material to enable each student individually to dissect at least the lateral half of the human cadaver, to provide cross-sections and other demonstration material and to allow of

a thorough course for each senior in operative surgery on the cadaver.

14. For the modern experimental laboratory work in phyisology, pharmacology and bacteriology as well as for medical research, a supply of animals—frogs, turtles, rabbits and guinea-pigs, if not also cats and dogs—is essential. Proper provision, also, is necessary for the housing and care of such animals. In any use made of animals every precaution should be taken to prevent needless suffering, and work by students should be carefully supervised.

15. Each college should have a supply of such useful auxiliary apparatus as a stereopticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins; dummies for use in bandaging, a roentgen-ray and other apparatus now so generally used in medical teaching.

16. The college should show evidences of thorough organization and of reasonably modern methods in all departments, and evidences that the equipment and facilities are *being intelligently used* in the training of medical students.

17. A clear statement of the college's requirements for admission, tuition, time of attendance on the classes, sessions, courses offered and graduation should be clearly set forth, together with complete classified lists of its matriculants and latest graduating class in regular catalogues or announcements.

18. Statistics show[9] that modern medicine cannot be acceptably taught by a medical school depending solely on the income from students' fees. No medical school should expect to secure admission to, or be retained in Class A, therefore, which does not have an annual income of at least $25,000 in addition to the amount obtained from students' fees.

Analyses, Selections, Etc.

The Value of Military Surgery In Civilian Practice—Results of Anociation in Reducing Mortality.

In addressing the 73rd Annual Meeting of the Ohio State Medical Association, George W. Crile, of Cleveland, emphasized the value of Anociation in reducing operative mortality.

"The Interallied Surgical Conference," said Dr. Crile, "adopted as one of its conclusions that in the treatment of wounded soldiers the anaesthetic of choice is nitrous oxide-oxygen combined with local anaesthesia. Among the evidence offered in support of this tenet, Surgeon-General Sir Anthony Bowlby presented the work of one of the most brilliant British military surgeons, Captain Douglas C. Taylor, and the work of the Chief of the Anaesthetic Service of the British Army, Captain Gregory Marshall. The experience of Captain Taylor I am privileged to quote. He has summed it up as follows: 'Until the summer of 1917 my colleague, Captain Marshall, invariably gave ether for my laparotomies for gun-shot wounds of the abdomen. No series of 100 consecutive cases showed a recovery rate of much over 50 per cent.

"'During the summer and autumn of 1917, I did 101 laparotomies for abdominal wounds, and nearly half of them were given nitrous oxide and oxygen combined with infiltration of the abdominal wall with eucain and novocain. The more serious cases, i. e., those with rapid pulse and low pressure were nearly all done by this method.

"'Of this series, 27 died at the Casualty Clearing Station, and 74 were evacuated to the Base; of the latter there have been only two deaths, both from secondary hemorrhage—one from the kidney and the other from the rectum and buttock.'"

That is, by the employment of anociation, Captain Taylor's mortality rate was reduced from approximately 50 per cent. to 29 per cent.

Captain Marshall has demonstrated that patients may apparently do well during ether anaesthesia but do badly afterward, while they do well both during and after nitrous oxide-oxygen anaesthesia.

The experience on a large scale of the resuscitation teams from the Lakeside Unit, which served continuously throughout Field Marshal Haig's great offensives in Flanders in 1917, during which there were over 800,000 casualties, showed that in abdominal operations somewhat better results were obtained if, before the beginning of the operation, sufficient blood were transfused to permit a safe performance of the operaton; and again, at the com-

9. See "Medical College Finances," The Journal A. M. A., April 8, 1916, page 1115.

pletion of the operation, an ample amount of blood up to 750 c. c. were given. Furthermore, if a let-down appeared later, the transfusion might be repeated. Meanwhile, the advantages of comfort, rest, warmth, morphia and fluids were added.

The advantages of the nerve-blocking are further emphasized by Colonel Cabot's series of 180 amputations of the thigh, one-half under ether, and one-half under spinal anaesthesia with a reduction of mortality by the use of spinal anaesthesia of 50 per cent.; while Captain Taylor by the use of nitrous oxide-oxygen reduced his mortality rate for thigh amputation more than 200 per cent. (Ohio State Med. Jour., Sept., 1919.)

Correspondence

Health Service of American Red Cross.

WASHINGTON, D. C., *May* 18, 1920.

TO THE EDITOR:—

I desire through you to inform the Medical Society of Virginia that a Department of Health Service has been organized in the Potomac Division of the American Red Cross, which includes Maryland, Virginia, West Virginia, and the District of Columbia. This action is in accordance with the policy of the American Red Cross to use its organization so far as it properly can to assist in the prevention of disease.

I have talked with Dr. Ennion G. Williams, the State health officer, regarding the participation in local health work by the Red Cross chapters, and am glad to say that Dr. Williams welcomes co-operation from the Red Cross. I wish to assure the Medical Society of Virginia that the Red Cross desires to work with it as closely and harmoniously as possible, and bespeaks the co-operation of local medical societies and individual physicians for the Red Cross chapters.

PAUL B. JOHNSON, M. D., *Director, Dept. of Health Service, Potomac Division, A. R. C.*

Open Letter To Virginia Physicians.

May 15, 1920.

DEAR DOCTOR:

One of the greatest handicaps which the Laboratory of the State Board of Health experiences in making prompt reports to physicians on specimens received for examination is the frequent illegibility of names and addresses. We endeavor to keep a complete file of all physicians in the State of Virginia, which file is arranged alphabetically, both by post-offices and by the physicians' names. By means of these files, when either the name or the place is legible, we are usually able to complete the address and send the report. We find, however, that in spite of these efforts, we are unable to determine the origin of some specimens.

These files are of value to us in direct proportion to the extent to which they are accurate and complete. We find it very difficult to keep them correct and up-to-date, especially in the names of new physicians locating in the State, and others who change their address.

It would greatly aid us if physicians would send us notices of changes in address, or of new physicians coming into the State.

E. C. L. MILLER,

Bacteriological Laboratory, State Board of Health.

Book Announcements

A Manual of Obstetrics. By JOHN COOKE HIRST, M. D., Associate in Gynecology, University of Pennsylvania; Obstetrician and Gynecologist to the Philadelphia General Hospital. 12mo. of 516 pages with 216 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth $3.00 net.

In this manual the author gives in a concise and complete manner the subject of obstetrics. It will be valuable to students as a time-saver in reviewing for examinations, yet full enough to enable a hurried consultation by the busy physician.

The book is neat in appearance, well written from the author's long experience as a teacher, and is well illustrated.

V. H.

Arteriosclerosis and Hypertension. With Chapters on Blood Pressure. By LOUIS M. WARFIELD, M. D., (Johns Hopkins), F. A. C. P., formerly Professor of Clinical Medicine, Marquette University Medical School; Chief Physician to Milwaukee County Hospital. Third Edition. St. Louis. C. V. Mosby Company, 1920. 8vo. 265 pages. Illustrated. Cloth, $4.00

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Editorial

Medical Education in Virginia.

The appointment of the Commission on Medical Education, by the Governor of Virginia, as authorized by the recent Legislature, to make a survey of the medical schools and to study the problem of medical education in Virginia, very properly, serves as an opportunity to direct the attention of the doctors of this State to this subject. It is really one of the most vital and important public matters with which the medical profession of Virginia has had any connection in a generation. For no class of citizens of the Commonwealth is more intimately connected with this public problem than the doctors; not only because of the training derived from medical schools by themselves, and not only because of the advantages to themselves of having in operation within the borders of their own State the most modern, best equipped and efficiently conducted medical school, from which may be gotten professional and medical reflex advantages of the highest order, but because of the great duty the medical profession of this State owes to the people in it of this and succeeding generations. It is well known by every well informed physician, and layman as well, that medical education in this country is now undergoing an epochal change.

This epoch in medical education means a change from the old order to the new. The old methods and establishments have served their day, and to them we owe much of the present-day knowledge. But the light of this knowledge shows the glaring weaknesses and insufficiencies of the old machines for the work of the future. In no phase of the social order is this more true than in medical education. Some States and communities have adjusted themselves and have set themselves right for the great work of medical education. But here in Virginia the situation is not good enough. This State is entitled to the best and most adequate medical establishment, with none superior the country over. The physicians of Virginia are in position to give expert and telling assistance in this readjustment to the needs of modern medical education. Let them, as members of the State Medical Society, an influential body of citizens, organized for the avowed purpose of promoting the public good in medical matters, inform themselves upon this vitally important work and, further, let them, if occasion requires, exert a proper and effective influence to see carried forward the establishment of an adequate and unexcelled State institution or institutions for the training and education of medical men, not only for this day, but for the generations to come.

The Preparation and the Need.

Owing to the fact that medical men of America realized the importance of training academically every student in medicine, the medical colleges of the country, very properly, within the last fifteen years, placed entrance requirements higher. In Class A medical schools,* two years' college course is required; in some, a degree is required before medicine is begun. This not only includes two years of college work; but, in quantity and quality, this two-year course must be fully equal to the first two years of the course leading to the degree of Bachelor of Science in reputable and approved colleges of arts and sciences. Seventy-eight of the eighty-five medical colleges now existing are requiring this or a higher standard.

It is believed that the requirement of two years of work in a college of arts and sciences is one of the most advantageous points in American medical education, for, in the first place, it brings every student into the atmosphere of the liberal arts college for at least two years before he goes on into medicine. This gives him the benefit of the contact with

*See "Choice of a Medical School," published by A. M. A. and copied in this journal.

students in other departments of education. As may be readily seen, the student lives in the college atmosphere, with its various societies, clubs, athletics, etc.,—experiences which will be of value to him throughout his life.

Secondly, this arrangement enables him to postpone the final selection of his life's work until such time as he is best able to decide that most important matter. On completion of his two-year premedical course he can, if he desires, go on and complete his work for the B. S. degree before entering on medicine, or, if he prefers, he may choose some other calling. His two-year course in the premedical subjects is acceptable also as preliminary education leading to other callings, especially those along scientific lines. If he desires the degree of arts, the chances are he would have to take a few other courses, particularly the classics. Even after taking the first two years of his medical courses, he still has the opportunity to swing to such a subject as dentistry, if he prefers, or he can enter the combined course and secure his B. S. degree with the first two years in medicine. He can, even then, transfer to other science departments, if he cares to do so.

As you see, this arrangement not only safeguards the individual, since on entering medicine he is enabled to know positively that it is his life work, but on the other hand, the medical profession is safeguarded, since every individual entering it will come with the qualifications of culture secured in the liberal arts college.

This advance in requirements has caused many of the poorer schools of the country to close: and in turn has lessened the number of men applying for study of medicine. And so, without the effects of the war, there began to be felt the effect of a reduction in the number of physicians. But very fortunately, the efficiency of the average medical graduate has been greatly raised. In this important fact, the public may find great comfort, for no longer need it feel, that the young doctor, recently graduated, is wholly wanting in clinical experience in disease, and must derive his experience and knowledge from his observation of, and practice on, his first patients.

The war also has had its effect. The war for two years practically changed the whole medical map of America. Thousands of physicians left their posts and patriotically served the cause of their country. Many of these men have never returned to their old places. Some, having returned to practice, have located in other places; some have died of diseases; some have changed their methods of service, many becoming specialists.

As a result of these conditions, our State is confronted with a serious shortage of physicians. This fact was made impressive during the influenza epidemic.

There are less than seventy-five doctors graduated each year from the two State medical institutions, the Medical College of Virginia and the Medical Department of the University of Virginia. Of this number, some of these graduates are not from Virginia and go into other States to practice.

A Call to the College-Men.

Medicine invites you work in a field where much is known of the cause and course of diseases; to a field of work where, for instance, the cause of ubiquitous typhoid fever is known. We know the typhoid bacillus; we know now about diphtheria—how to diagnose it early and and how to treat it, reducing its dreadful mortality of twenty years ago to almost nothing of today. We know, now, much of tuberculosis, that "white captain of the men of death," its germ, its insidious methods of implantation in the human body (particularly the lungs); its long, slow, but progressive growth in this most delicate organ. We are conquering tuberculosis by early diagnosis, by knowledge of its physical signs, by microscopic study of the lung's secretion, by the X-ray of the lungs, by the skin tuberculin test. The management and treatment of this dreaded disease is now well in hand.

So, leprosy, smallpox, yellow fever, cholera and the plague really are disease-terms rapidly becoming obsolete in medical terminology. Medical science has all but wiped them off the face of the earth.

Malaria, too, offers little worry, because the origin and method of its propagation is well known, and the eradication of it is being successfully accomplished by the application of the rules of prevention. This is being done by eradication of its host—the malarial mosquito.

So, medicine has done much for you already in the battle against these infections of man. Of course, much remains to be done, but how fortunate we are in the great wealth of knowledge revealed by the microscope and by the work of the bacteriologist! There are yet many problems to be solved in this field, but the ground has been broken. More workers and more work will bring solution in the bacterial origin and treatment, particularly in such diseases as pneumonia and influenza—so recently the horror of the world, when over six million human beings died of lung complications.

Also, medicine offers you many solved problems in the discovery of physiological-pathology of the human body. Its new-found laws concerned in the disease of pellagra, diabetes, gout, scurvy, beriberi and Bright's disease, and new facts brought to light in recent years about the origin of systemic diseases and so-called focal infections, offer you fruitful opportunity to explore in a realm very rich in possibilities for the prolongation of human life. The great and interesting facts being disclosed in the study of diet and the proper feeding of infant, youth and mature life are indeed wonderful offerings that medicine makes to you. In this field may there not be found the cause of man's failure to successfully combat the propagation of infectious diseases in the human body? With the proper feeding of the human animal may we not find a wealth of inherent strength and power in the body for antagonizing the progress of bacterial disease? Immunity to certain diseases at certain stages of life seem to point in this direction. Here, in this field, medicine offers you some new facts about the growth and care and feeding of infancy and youth, so that the crippled and deformed in childhood, the anemic and emaciated, the obese and misshapened in adult life, may not be so large a proportion of our population.

Besides, in the great domain of surgery, the vocation of medicine offers you likewise many wonderful facts. Even in this department much remains to be done. This field is rich, however, in opportunities. Only a day or so ago we witnessed a feat of the art of surgery which illustrates, briefly, one of many triumphs of this field. A patient, an aged lady, 77 years, having just recovered from broncho-pneumonia, was seized with an attack of acute appendicitis. She had the pain, she showed the classical signs, her blood indicated "serious inflammatory disease", all making the conclusion imperative that an operation for the removal of the acutely diseased appendix was immediately needed in order to save her life. Of this opinion she and her family were immediately informed. She was taken in an ambulance to the hospital; taken forthwith to the operating room; the surgeons, after following the usual technique of preparation, began the operation. Without a general anaesthetic, with only a local anesthesia, with the patient conscious and quietly and composedly talking, the abdomen was opened and the acute gangrenos appendix was removed. The patient in two weeks was well and able to go home. This illustrates the wonder and the greatness of an art that invites you to its ranks.

The field is in need of workers—but only well educated and academically trained workers. The vocation is rich in great scientific interest and knowledge, and the opportunity for the medical man of the immediate future is great. To it we invite you.

While we invite you to medicine as a vocation, one must not fail to say that it has its hardships and its difficulties. There are many perplexities and many reverses to be dealt with. But, if you hold fast to the profession of the faith, learn to adhere, without wavering, to the high ideals of the ethical obligations of the profession, no matter how grave the difficulties, how serious the responsibilities, or how onerous the work, you shall feel a deep and abiding satisfaction in the pursuit of it as a life-work.

Indeed, medicine is of all the arts the most noble, says Hippocrates, and "whoever is to acquire a competent knowledge of medicine, ought to be possessed of the following advantages: a natural disposition: instruction: a favorable position for study, and love of labor." Having brought these requisites to the study of medicine and having acquired a true knowledge of it, you "shall be esteemed a physician not only in name, but in reality."

Improvement In Hospital Service.

Every State medical association in the United States has its part to play in the

present universal movement for the betterment of hospital service. Every association now has its own committee which is studying the hospital situation in its State in co-operation with the Council on Medical Education of the American Medical Association. The Council has obtained, through reports, correspondence, and other methods, data relative to all hospitals in the country, and each State committee has been supplied with the data relating to the institutions in its State. Through their closer familiarity with the hospitals, or by inspection, the State committee is in excellent position to verify these data and to make a reliable report to their State association and to the Council.

For convenience and in order to secure uniformity of reports from the forty-eight committees regarding the relative efficiency of hospitals, blanks furnished by the Council call for a rating of all hospitals in classes A, B and C, grouped also according to the special class of patients cared for. This rating is not for publication, but will aid the Council in the preparation of a list of hospitals which are considered worthy of approval. These lists are subject to frequent revision, so that names of other hospitals can be included as soon as sufficient improvements are made to warrant their being approved. State committees are urged to promptly report to the Council any instances where such improvements have been made.

The purpose of the work is to aid the hospitals in providing for their patients the best possible service, and in no way to injure those which are honestly endeavoring to provide such service. Toward this end, every possible assistance will be given to individual hospitals by the Council or by the local State committee in establishing such changes as will make them worthy of approval.

Forty-two State committees have reported progress in connection with the survey, and thirty-four have turned in reports regarding hospitals inspected and graded, which have more than half the entire bed capacity of all general hospitals in the country. Meanwhile, this work of the Council is not conflicting with, or duplicating the splendid work being done by the American College of Surgeons, the Catholic Hospital Association, the American Hospital Association, or other agencies. In fact, the work of each agency is evidently complementing that of the others.

At the New Orleans meeting recently, the House of Delegates of the American Medical Association registered an intense interest in the improvement of hospital service, and authorized the trustees to generously provide for that work. This work has been so intimately related to that of the Council on Medical Education that the name of this Council was changed to the "Council of Medical Education and Hospitals."

In brief, further enlargement of hospital work by the American Medical Association is assured, and in this work each State is destined to have an important part. Toward this end each association is urged to make its hospital committee permanent, and to retain on it those who will not only be active, but who also can do the work in the most efficient and unbiased manner. Hospitals, at present, form the closest link between the medical profession and the public, and the medical profession should do all it can to aid the hospitals to provide the very best service possible.

Digestibility Of Cocoa Butter.

Gardner and Fox (From the Physiological Laboratory of London) BIOCHEMICAL JOURNAL, Vol.VIII, No. 4, in discussing an investigation on the digestibility of cocoa butter, reach the following general conclusions:

I. Cocoa butter is rather less digestible than butter, but experiments recorded show satisfactory utilization.

II. Beyond the slight laxative action observed in the case of some subject who consumed large quantities of the cocoa butter, no undesirable physiological effects were noticed.

III. Our experiments show no indication whatever that cocoa butter is a "slow poison," and there can be no doubt but that this substance could be used to supplement the fat need of the population with safety. This conclusion is in agreement with general experience, since large quantities of this fat must have been consumed with impunity in the various chocolate preparations on the market which may contain as much as 20% of fat.

In writing advertisers please mention this journal.

News Notes

Medical College of Virginia Finals.

The graduating exercises for the class of '20, Medical College of Virginia, ending its eighty-first year, were commenced with the baccalaureate sermon by Rev. Fred R. Chenault, of Broad Street Methodist Church, on Sunday evening, May 30. On the following day at noon, the Board of Visitors of the College met. No great changes were made in the personnel of the faculty, but some rearrangements will be necessary. At this meeting, the honorary degree of medicine was conferred upon Rear Admiral Cary T. Grayson, who attended this college for two years, though he later graduated from another institution.

"Alumni night" was held on Monday, and on this occasion Dr. Russell Cecil, of New York City, an alumnus of the college and formerly of this city, read an interesting paper on "Pneumonia and Influenza," in which he described some experimental work in which he has been engaged. This was followed by a smoker, "sing," wrestling match and a buffet supper. The business meeting of the Alumni Association was held on the morning of June 1, and later a luncheon was tendered the alumni at College Hall. Officers of the Alumni Association elected at this meeting, are as follows: President, Dr. Fletcher J. Wright, Petersburg; vice-presidents, Dr. B. L. Taliaferro, Catawba Sanatorium; Dr. J. Fulmer Bright, Chas. F. Walker, and Dr. R. R. Byrnes, all of Richmond; secretary, Dr. Roshier W. Miller; assistant secretary, Dr. Greer Baughman; treasurer, Dr. F. H. Beadles; registrar, Dr. Clyde F. Ross, all of the last named of Richmond.

Clinics and demonstrations were given on Tuesday afternoon at Memorial Hospital by Drs. J. Garnett Nelson, Stuart McGuire, Fred Hodges, Wm. Porter, W. T. Graham, McGuire Newton, Douglas Vander Hoof, and R. Finley Gayle.

That night at the City Auditorium, graduates of the college in the departments of medicine, dentistry and pharmacy, and graduates in nursing from Memorial Hospital, received their diplomas. There were twenty-one graduates in the school of medicine, four in dentistry, eighteen in pharmacy, and sixteen in nursing. Mr. Wyndham Meredith, of this city, delivered the address of the evening. Dr. Stuart McGuire, president of the College, presided over the exercises and conferred the degrees. He stated that Major Dooley had given an additional $11,000 to the Dooley Hospital, making a total of $51,000. This last sum is for the purpose of opening at once the hospital for children, so as to relieve the congestion at Memorial Hospital and to offer better facilities for the care and treatment of orthopedic cases.

The unusual events of this commencement were the presentation by Major William A. Stack, of the distinguished service cross to C. C. Cochran, of Huntersville, N. C., a student at the College, for his heroic services in the world war, and the graduation of the first woman doctor from this medical school. This latter was Dr. Innis Steinmetz, a Canadian by birth, though she now makes Richmond her home.

Hospital appointments are as follows:

Stuart Circle Hospital, Richmond—Dr. W. T. Green, Jr., Portsmouth, and Dr. John W. Shawver, Burkes Garden.

Gouveneur Hospital, New York City—Dr. Horace O. Bell, Wilmington, Va., and Dr. Frank M. Leech, Lexington, Va.

Stetson Hospital Philadelphia—Dr. Russell S. Wingfield, Richmond.

Philadelphia General Hospital, Philadelphia—Dr. Jas. F. Edmonds, Accomac, Va.

Miami Valley Hospital, Dayton, O.—Dr. Harry R. Huston, Humbert Pa., and Dr. T. C. Sheridan, Lorain, O.

St. Vincent's Hospital, Norfolk—Dr. Ward C. Curtis, Hartwood, Va.

Shenandoah Hospital, Roanoke—Dr. Lawrence H. Hoover, White House, Va.

Elizabeth Buxton Hospital, Newport News, Va.—Dr. A. D. Ownbey, Grundy, Va.

Metropolitan Hospital, New York City—Dr. Innis Steinmetz, Richmond.

Home for Incurables, Richmond—S. P. Hileman (undergraduate).

St. Elizabeths Hospital, Richmond—O. O. Ashworth (undergraduate).

Soldiers' Home Hospital, Richmond—C. W. Putney (undergraduate).

Memorial Hospital, Richmond—To be supplied.

Others receiving their diplomas in medi-

cine are: Drs. Wallace B. Cannon, Blackstone; Gilmer G. Holland, Holland; Howard W. Kline, Front Royal; Jas. G. Lyerly, Granite Quarry, N. C.; Howard L. Mitchell, Callands; Zack P. Mitchell, Windsor, N. C.; S. H. Nixon, Christiansburg; A. J. Russo, Portsmouth; William C. West, Vesta; Carlton Moorman, Moneta; Claud E. Stump, Pocahontas.

Federal Aid For Protection of Maternity and Infancy.

A bill for this purpose was introduced in both branches of Congress the latter part of 1919, and was referred by both Senate and House to sub-committees. The plan is to have the money appropriated by Congress apportioned among the States according to population, provided that each State appropriate a like sum. An additional sum is sought, to be divided equally among the States without guarantee of like sum. The act is to be administered by a Federal Board of Maternal and Infant Hygiene, and plans for State work must be submitted to and approved by this Board. It is further designated that at least half of the members of the committees must be women.

The necessity of protecting the lives of mothers and infants is apparent when it is noted that in the United States every year, some 17,000 mothers die in childbirth, and nearly a quarter of a million babies die under one year of age. Most of these deaths are preventable. Among fifteen important foreign countries, fourteen show a more favorable maternal death rate than the United States and seven a more favorable infant mortality rate. These statisics should be improved and every effort made to reduce this heavy mortality.

According to statistics compiled by our State Registrar of Vital Statistics, nearly three times as many women are dying in Virginia from the perils of motherhood as would succumb if all of them had the benefit of the care of painstaking physicians. The maternal death rate is second only to tuberculosis in its danger to women between the ages of 15 and 45 years.

New Form Of Influenza In Vienna.

Three hundred cases of a new form of influenza, thought by the Viennese and American Red Cross physicians who are treating them to be allied to encephalitis lethargica, are being treated in the hospitals of Vienna. The disease attacks the brain, inducing violent and painful muscular convulsions, similar to those observed in cases of St. Vitus dance. Pending the coining of an exact medical term, it is temporarily known as influenza of the brain. Of the 71 cases of brain influenza treated in the past month with the aid of the American Red Cross, 40 have already resulted in death.

The disease ordinarily begins with headache and sleeplessness, followed by increasingly violent convulsions of the stomach muscles not unlike those produced by acute appendicitis. From the stomach the convulsions pass to the limbs, face and extremities. In some instances the muscles of the eyes are paralyzed, forcing the eyelids open and inducing an illusory appearance of insomnia even in patients lying in the profoundest stupor.

Fever does not necessarily accompany the malady in the early stages, but later it appears and the patient passes into violent delirium, accompanied by acoustic and optical hallucinations. In the worst cases death comes in a few days. Persons between the ages of 18 and 35 are most often attacked. Prospective mothers appear particularly vulnerable to the disease. No successful treatment for influenza of the brain has yet been discovered. Medical science is powerless to combat the malady, which is spreading to an alarming extent throughout Austria.

Norfolk Doctors Form Medical Officers' Club.

At a dinner held at Hampton Roads Yacht Club, Willoughby Beach, the latter part of May, the Medical Officers' Club, of Norfolk, Va., was formed. This is composed of physicians who held commissions in the army and navy during the recent war. Lieut. Col. Junius F. Lynch was elected president and Capt. James S. Stringfellow, secretary.

This meeting was attended by approximately fifty physicians of Norfolk and vicinity who served as medical officers of the military and naval forces during the war. It is announced that membership in the Club would be open to all physicians who held commissioned rank at that time.

The following is a list of members of the Medical Officers' Club, of Norfolk:

Lt. Col. Junius F. Lynch	Capt. A. D. Morgan
Lt. Col. Geo. A. Renn	Capt. J. E. Diehl
Lt. Col. Lomax Gwathmey	Capt. J. W. Hunter
	Lt. A. V. Crosby

Lt. J. T. Rogers
Lt. E. R. Altizer
Maj. John Beattie
Maj. Israel Brown
Capt. F. H. Hancock
Maj. Burnley Lankford
Lt. F. F. Nolan
Lt. J. B. Gilmore
Capt. M. S. Fitchett
Capt. C. Willcox
Capt. George Schenck
Capt. S. R. Donohue
Capt. M. W. Healy
Lt. J. B. Foster
Lt. S. G. Gill
Lt. C. H. Childress
Capt. C. H. Lupton
Capt. T. V. Williamson
Capt. S. P. Oast
Lt. J. A. Hart
Maj. R. S. Spilman
Capt. H. C. Grant
Lt. J. W. Anderson
Lt. Bentley Byrd
Lt. Jos. S. Hume
Maj. W. E. Driver
Capt. Claude Kellam
Capt. D. P. West
Capt. H. R. Drewry
Capt. S. A. Riddick
Capt. J. W. White
Maj. B. R. Kennon
Capt. W. B. Martin
Lt. K. W. Howard
Capt. M. N. King
Lt. W. A. Simpson
Lt. T. B. Woods
Lt. S. B. Whitlock
Capt. F. H. Rinker
Lt. C. W. Eley
Lt. T. M. Vorbrinck
Lt. B. E. Harrell
Lt. R. H. Dubose
Lt. S. D. Williams
Lt. S. P. Devine
Capt. Harry Wall
Lt. B. A. Doggett
Lt. J. A. Strickland
Lt. N. F. Rodman
Capt. H. R. Seelinger
Maj. R. Lloyd Williams
Capt. Jas. L. Stringfellow

The Medical Society of the State of North Carolina,

At its annual meeting recently, held under the presidency of Dr. Carl V. Reynolds, of Asheville, selected Pinehurst as the 1921 place of meeting, and elected the following officers: President, Dr. Thos. E. Anderson, Statesville; vice-presidents, Drs. Chas. S. Lawrence, Winston-Salem; Wm. H. Ward, Plymouth, and John M. Manning, Durham; secretary-treasurer, Dr. Benj. K. Hays (re-elected), Oxford. Dr. L. B. McBrayer, Sanatorium, was made acting secretary-treasurer during the absence of Dr. Hays in Denver. At this meeting, also, the following were nominated members of the N. C. State Board of Medical Examiners: Drs. Lester A. Crowell, Lincolnton; Lucius M. Glenn, Gastonia; John G. Murphy, Wilmington; Clarence A. Shore, Raleigh; Wm. M. Jones, Greensboro; William P. Holt, Duke, and K. P. B. Bonner, Morehead City.

N. C. Health Association.

Dr. R. L. Carlton, Winston-Salem, was elected president of this Association at its recent meeting in Charlotte; Dr. Lawrence J. Smith, Wilmington, vice-president; and Dr. George M. Cooper, Raleigh, secretary-treasurer.

The N. C. Hospital Association,

Also in annual session in Charlotte in April, elected the following officers: President, Dr. J. M. Parrott, Kinston; vice-presidents, Drs. Jas. R. Alexander, Charlotte; Paul R. MacFayden, Concord, and Miss Gilbert Muse, High Point; secretary-treasurer, Dr. John Q. Myers, Charlotte.

Portsmouth Health Bulletin.

One of the latest cities in Virginia to commence issuing health bulletins is Portsmouth. Their third monthly bulletin, issued May, 1920, has been received at this office, and Dr. L. J. Roper, health officer of that city, and his assistants are to be congratulated on the appearance of the bulletin and on the interesting material appearing therein.

U. S. Pharmacopeial Convention.

At the tenth decennial Pharmacopeial Convention, which was held in Washington, D. C., May 11 and 12, Dr. Reid Hunt, of Harvard University, was elected president, and Dr. Lyman F. Kebler, of Washington, D. C., secretary. It was decided that the new committee on revision should be composed of seventeen physicians and thirty-three pharmacists and chemists. Dr. Horatio C. Wood, Jr., of Philadelphia, was appointed chairman of the sub-committee on Scope. This is the committee in which physicians generally are most interested, as it has to do especially with the selection of drugs which are described in the Pharmacopeia.

Those who attended as delegates from Virginia were Drs. R. W. Miller, Alex. G. Brown, Jr., C. C. Haskell, James H. Smith, and W. F. Rudd and P. F. Fackenthall.

The American Association of Anesthetists,

At its annual meeting, elected Dr. Joseph E. Lumbard, of New York City, president, and Dr. F. H. McMechan, of Avon Lake, O., secretary-treasurer. The Association went on record as being "unalterably opposed to the employment of lay anesthetists, and all other types of anesthetists who shall not have been graduated from recognized medical or dental colleges and have been licensed to practice medicine or dentistry." In the discussion of this subject, it was stated that the colleges are not turning out anesthetists fast enough; that the degree of M. D. does not necessarily confer the moral right to give an anesthetic, as some people could never be anesthetists.

For this work, one needs long and special training and must be peculiarly fitted by nature—personality and training being important.

Dr. St. Geo. T. Grinnan,

A well known child specialist of this city, was one of the speakers before the Cradle Roll Conference, which was held in this city on June 6. He spoke on the subject of physical welfare of the child.

The West Virginia State Medical Association,

At its annual meeting last month, elected the following officers: President, Dr. J. Howard Anderson, Marytown; vice-presidents, Drs. Hubert E. Gaynor, Parkersburg, S. G. Moore, Elkins, Chas. O'Grady, Elkins; secretary, Dr. Robt. A. Ashworth, Moundsville; treasurer, Dr. H. G. Nicholson, Charleston.

Dr. George W. Parrott,

Formerly of Fork Union, Va., has moved to Atlanta, Ga., where he will continue the practice of his profession. His offices are in the Grand Building.

Dr. Williams Lectured in Kansas.

Dr. Ennion G. Williams, health commissioner of Virginia, in May delivered a series of lectures on disease prevention and rural sanitation at the annual school conducted at the University of Kansas, Roseland, for public health officers and nurses. The excellent health work accomplished in Virginia since the organization of the State Health Department, twelve years ago, has attracted much favorable comment among health workers throughout the country.

Dr P. E. Tucker,

Buckingham, Va., was a recent visitor in this city, having come on personal business.

The U. S. Civil Service Commission,

Washington, D. C., reports the following examinations to be held shortly:

For junior physiologist, at $2,000 a year and quarters, on July 6.

For physician in the Indian Service, acting assistant surgeon in the Pubilc Health Service, and surgeon in the Coast and Geodetic Survey (salaries varying according to position), at any time, until further notice.

For bacteriologist at St. Elizabeths Hospital, Washington, at $2,500 a year, with temporary increase of $20 a month granted by Congress, and maintenance, on June 22.

For physician in Panama Canal Service at entrance salary of $225 a month, with increase upon promotion, on July 7 and September 8.

For full information with regard to any of these positions, communicate with the above Commission.

Drs. Morrison and Gorman.

Drs. James Morrison and James R. Gorman, of Lynchburg, Virginia, have announced their partnership, with offices at 807 church Street, that city. They will limit their practice to diseases of the eye, ear, nose and throat.

Hold To Your Liberty Bonds and Buy More.

The Government has issued the following advice: hold to your Liberty bonds and buy as many more at the present low rate as you can. They are as safe and sound as the United States Government itself; you receive your interest at stated intervals, and will receive from the Government dollar for dollar, upon maturity, whether their value rises or falls in the meantime. The present low price is due to the fact that many people are offering to sell their bonds. The man who buys them now is making money.

A Correction.

In our last issue, in the news note on "Medical Director of Memorial Hospital," we made a mistake in giving the personnel of the chiefs of the professional departments of Memorial Hospital. The name of Dr. Lawrence T. Price was given as chief of the department of surgery. This should have been Dr. Lowndes Peple.

Dr. A. W. Martin,

Formerly of Hillsville, Va., has located at Clinchco, Va., where he will continue to practice.

Dr. Allen J. Black,

Who was located at Hollins, Va., at the time of entering the medical reserve corps, U. S. Army, in July, 1917, has been in the U. S. Public Health service since October 1, 1919, and is now at U. S. Public Health Service Hospital No. 41, New Haven, Conn.

Dr. J. M. Ropp,

Until recently of Shenandoah, Va., has been attending the N. Y. Post-Graduate Medical School and Hospital since the first of May. The middle of June, he expected to go to Chicago for special work, and later to the Mayo Clinic for two weeks. About the middle of July, he will locate in Roanoke, Va., where he has been appointed assistant surgeon on the staff of Dr. S. S. Gale, chief surgeon of the Norfolk and Western Railway. Dr. Ropp has been surgeon for the railroad at Shenandoah, Va., his former home, for the past fifteen years.

New Secretary For Fairfax County Society.

Dr. E. L. Flanagan, Fairfax, Va., has been elected secretary of the Fairfax County (Va.) Medical Society to succeed Dr. Rozier C. Bayly, deceased.

Dr. E. J. Moseley, Jr.,

Richmond, who was recently operated on for appendicitis, has returned to his home.

Dr. Hugh H. Trout

And family, of Roanoke, Va., expected to go early in June to "Summerdean," their country home near Hollins, Va., for the summer season.

Dr. James J. Durrett,

Who, during the war, was in charge of sanitation in the military establishment on the Virginia peninsula, with headquarters at Newport News, and who has since the war been doing community sanitation work, will, on July 1, become head of the Memphis, Tenn., Department of Health. It is also announced that he will have charge of a chair of public health at the University of Tennessee, College of Medicine, Memphis, when the next term begins in September.

Gift To Home and Retreat of Lynchburg.

The sum of $20,000 has been added to the fund being raised in Lynchburg, Va., for the new hospital for Marshall Lodge (Masonic) Home and Retreat, by a gift from Mrs. Max Guggenheimer, of that city.

Dr. Frank P. Righter,

Medical director of the Atlantic Life Insurance Company, is preparing to build a new home at Duntreath, on the Three Chopt Road, just outside of this city.

Dr. and Mrs. Loren E. Cockrell,

Of Reedville, Va., in May took a trip which included visits to Richmond, Norfolk and Charlottesville.

Dr. and Mrs. H. Ward Randolph

And children, of Richmond, enjoyed a motor trip to Reedville, Va., in May.

Dr. Thomas S. Hening,

Of Jefferson, Va., was a delegate from Powhatan County to the recent Democratic convention in Roanoke, Va.

Dr. Frank C. Hodges,

Of the class of '17, Medical College of Virginia, is now making his home in Huntington, W. Va., and is secretary of the Cabell County (W. Va.) Medical Society.

A Popular Move.

The health commissioner of Chicago recently started a reducing class for fat women. So successful was his work in the first week that in a few days the class jumped from twenty-four to nearly two hundred. The average weight of the first twenty-four women, upon starting the reducing, was 201.66 pounds. By the end of the first week, the average weight had dropped to 197.76 pounds.

Dr. Raymond H. Brockwell,

Of Richmond, was one of the two Virginians whose names appeared in the "Fifty High Guns for 1919", in a recent copy of Sportsmen's Review. This means that out of many thousands of trapshooters in registered tournaments in the United States and Canada, in 1919, he was one of the fifty best shooters in the Western Hemisphere.

Dr. H. Cowles Rucker,

Who has recently been practicing at Clinchco, Va., has located at Mattoax, Va., and will practice in that section.

French Casualties in War Enormous.

In a recent statement given out as to France's war losses, it is announced that during the five years of war, 8,000,000 men were mobilized, of whom 1,400,000 were killed, 800,000 maimed, and 300,000 wounded. France thus lost 57% of her men under 32 years of age.

Dr. V. W. Quillen,

Who has been located at Exeter, Va., has recently moved to Nickelsville, Va.

Married—

Dr. Booker Ephram Rhudy, of Abingdon, Va., a graduate of the class of '16, Medical College of Virginia, and Miss Margaret E. Hatch, of Chesterfield County, Virginia, May 3.

Dr. Henry C. Smith,

Crewe, Va., has announced his candidacy for election to Congress from the Fourth Congressional District, this State.

Dr. and Mrs. J. N. Upshur

Have returned to their home in Richmond after a visit on the Eastern Shore of Virginia and later in Washington, where they were guests of their son, Lt. Col. Alfred P. Upshur, U. S. Army mediacl corps.

Medical Society of D. C. To Have New Home.

The cornerstone of the new home of the Medical Society of the District of Columbia was laid on May 6, Dr. Charles W. Richardson presiding over the ceremonies. The new building is to be at 1716 and 1718 M Street, N. W., and it is expected that it will be ready for occupancy in November. At the exercises, short addresses were made by Dr. Francis R. Hagner, president of the Society, and by Drs. Wilfred M. Barton, Jos. S. Wall, and John B. Nichols. Dr. Tom A. Williams presented a handsome donation from one of his friends who was much interested in the movement.

Dr. William P. Caton,

Who has been connected with the health campaign being conducted in Pittsylvania County, Va., has resigned from health work and, after the middle of this month, will be located at 224 S. Washington Street, Alexandria, Va

Dr. Henry R. Carter,

Assistant Surgeon General, U. S. P. H. Service, is now in Baltimore, after some time spent with the Rockefeller Foundation party fighting yellow fever in northern Peru. He expects shortly to return to Peru to succeed Gen. William C. Gorgas, who has been adviser in sanitaion for Peru and who has been called to South Africa.

Fight Whooping Cough.

The fact that during the first three months of 1920 there were reported in Virginia the deaths from whooping cough of 118 children, causes the State Health Department to urge the more general use of whooping cough or pertussin vaccine in fighting this disease. Excellent results have been obtained from its use, even when the child has begun to cough, though its use is especially recommended for children who have been exposed to the disease and have not commenced to cough.

This vaccine will be furnished at cost by the State Board of Health, if it cannot be obtained from local sources.

Dr. Horsley Honored.

At the recent meeting of the American Medical Association, in New Orleans, Dr. J. Shelton Horsley, of this city, was elected a member of the Council on Scientific Assembly for a period of five years.

Dr. Charles U. Gravatt,

Port Royal, Va., was elected at the State Democratic convention in Roanoke one of the delegates to represent Virginia at the San Francisco convention.

Dr. W. W. Chaffin,

Pulaski, Va., last month visited his daughter, who is a student at Randolph-Macon Institute, Danville, Va.

Dr. James C. Doughty,

Onancock, Va., is delivering a series of lectures on first aid to the pupils of the Onancock High School.

Dr. George B. Wheeler,

Of Cressmont, Ky., has been visiting Dr. B. B. Wheeler, of Clifton Forge, Va., and while with him has been assisting in the work of the C. & O. Hospital, at that place.

Dr. and Mrs. S. C. Draper

And son, of Pulaski, Va., were visitors in Richmond in May, having come here to attend the marriage of their brother, Dr. B. E. Rhudy, which took place near this city.

Dr. W. Fewell Merchant,

Of Manassas, Va., was elected vice-commander of the Prince William County Post of the American Legion, which was organized in that place in May.

A Good Record Made By Norfolk.

As an evidence of the good work being accomplished by the Norfolk, Va., Health Department, there were reported during 1919